Government of Saskatchewan

Annual Report 1987-88

Saskatchewan Highways and Transportation

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Letter of Transmittal

SASKATCHEWAN

Legislative Building
Regina, Saskatchewan S4S 0B3
(306) 787-6447

Minister of
Highways and
Transportation

Her Honour The Honourable Sylvia O. Fedoruk, O.C., S.O.M.
Lieutenant Governor of Saskatchewan

Your Honour:

It is my pleasure to submit to you the 1987-88 Annual Report for Saskatchewan Highways and Transportation.

I am pleased to report that Saskatchewan Highways has continued to advance in its mandate of "linking" the people of Saskatchewan to the rest of Canada, through continued maintenance and improvement of an integrated multi-modal transportation system.

Efficient transportation contributes directly to the future of our economic, social and cultural well being. With this in mind Saskatchewan Highways and Transportation will continue to develop policies and programs for the purpose of improving transportation systems for the movement of people and goods.

The year will be remembered as one of significant changes, challenges and achievements. The commitment from employees, and the co-operation of communities, has been excellent.

Ensuring Saskatchewan a quality transportation system for today, and for our future.

Yours sincerely,

Grant Hodgins

Grant Hodgins
Minister

Saskatchewan

Saskatchewan
Highways and
Transportation

Deputy Minister

1855 Victoria Avenue
Regina, Canada
S4P 3V5

April 1, 1988

The Honourable Grant Hodgins
Minister of Saskatchewan Highways
and Transportation

Sir:

It is my pleasure to present to you the Annual Report of Saskatchewan Highways and Transportation for the fiscal year ending March 31, 1988. A detailed review of all department activities is provided in this report.

Forces of change continue to be evident within the transportation sector, both in Saskatchewan and across Canada. Department staff continue to play an active role in this changing environment. The new National Transportation Act was enacted by Parliament on January 1, 1988 and the department is reviewing proposals for monitoring the effects of this new Act. Federal and provincial transportation ministers have agreed to develop and implement a national safety code. Our department staff are continuing to develop standards in consultation with industry and labour groups.

The department continued its privatization initiatives in two maintenance areas, namely right-of-way mowing and summer blading of gravel highways.

The department continues to place emphasis on a broad range of research initiatives aimed at the development of new technology, materials and procedures. Saskatchewan is actively participating in the Canadian Strategic Highway Research Program which is part of a larger research program in the United States aimed at more efficient use of the highway infrastructure.

An agreement was recently signed by the federal government and all provinces related to uniform minimum truck weights and dimensions. Department staff were actively involved in this project, which is a major achievement in the improvement of safety and efficiency for the movement of goods by truck across Canada.

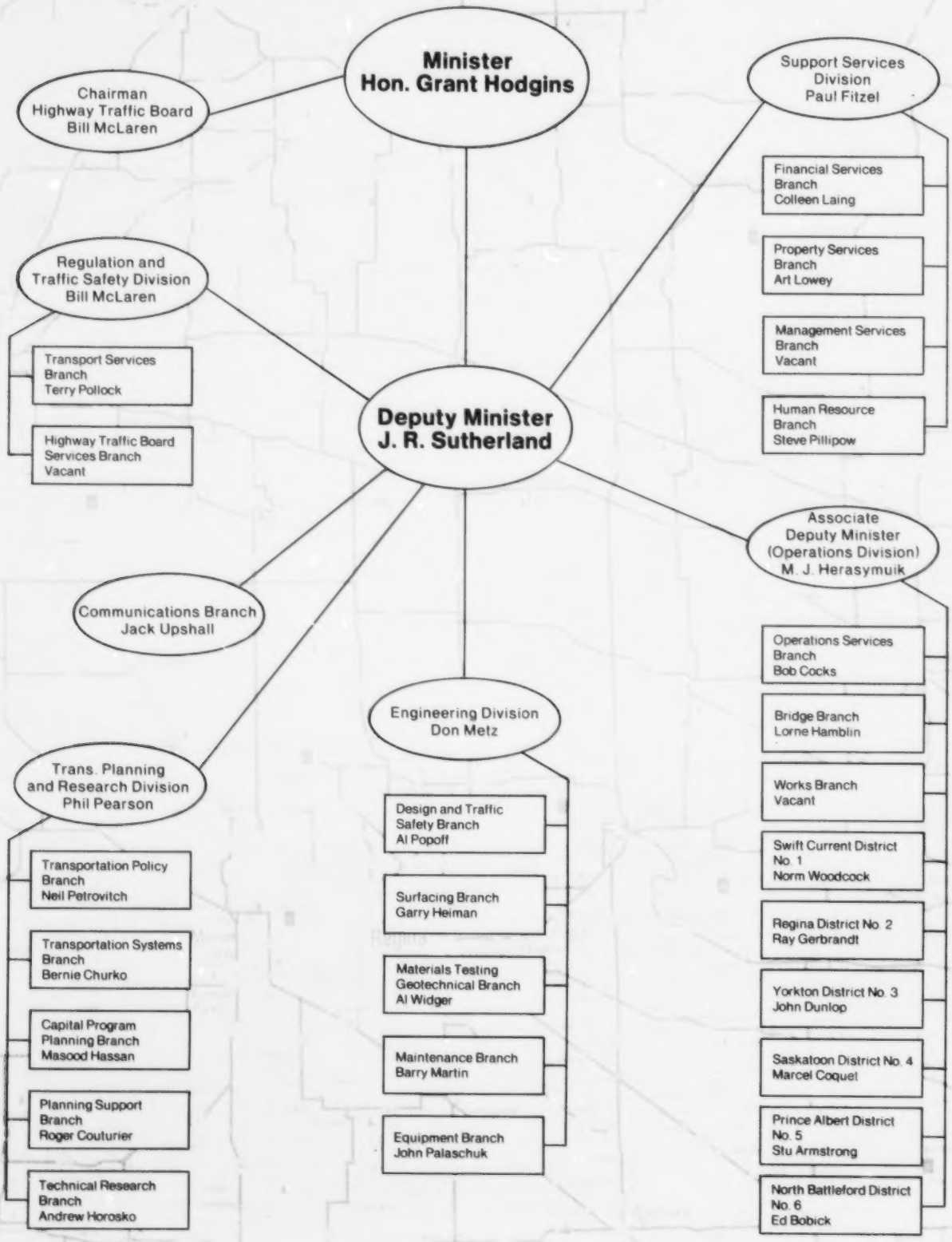
In accordance with the department's long range electronic technology plan, we continue to place emphasis on the development of more effective management information systems and improved program delivery.

A major organizational change was made with the amalgamation of the Traffic Safety Engineering Branch and the Traffic Analysis Section from separate divisions to form a new Design and Traffic Safety Branch within the Engineering Division.

1987 was a challenging year for all department staff and I want to commend them for a job very well done in providing efficient transportation services to the road users of Saskatchewan.

J. R. Sutherland
Deputy Minister

Organization Chart as of March 31, 1988



Major Objectives

- To provide, maintain and protect provincial highways, roads, airports and related facilities at an acceptable level of service to users.
- To develop policies and programs for the purpose of improving transportation systems for the movement of people and goods.
- To provide transportation systems and services that contribute to the economic, social, cultural and environmental well-being of the province.
- To achieve excellence in the management of human, technological, financial and information resources of the Department.
- To improve transportation safety for the purpose of reducing the incidence and severity of accidents.
- To provide assistance to local governments for the improvement of community airports and highway routes through urban areas.

Mission

To plan, implement and manage an integrated multi-modal transportation system which provides for the safe, efficient movement of people and goods at a level of service acceptable to the public for the economic and social development of the province, within the mandate and resources provided by the Government of Saskatchewan.

Difficult construction conditions at McCloy Creek.

Communications Branch

The mission of the Communications Branch is to communicate programs, policies and accomplishments consistent with the department's mission, which will result in an informed public who are aware of, and familiar with, the purpose and services provided by Highways and Transportation.

Branch staff achieve this mission by setting and adhering to four primary objectives:

- effectively communicating interbranch activities, department policies, and changing trends in the transportation industry to department employees, special interest groups, and the general public
- gathering and assessing information to assist in the development of programs and projects to be communicated to the public
- establishing approval systems, production procedures and selecting appropriate distribution systems as they apply to communication materials for the public
- adhering to a professional code of ethics as set out by recognized communications/public relations associations.

In addition to these primary objectives, the Communications Branch provides two mandatory responsibilities:

- the branch co-ordinates the production and distribution of official and statutory publications
- the branch provides a central information service for public inquiries.

Highlights

During the fiscal year a variety of existing programs were continued and enhanced. Also during the year the Branch experienced a 75 percent turnover in staff due to promotions and transfers.

The Branch continued the multi-media 60 kilometres per hour Highway Worker Safety (Orange Zone) Campaign, Winter Hotline and Road Restriction advertising, plus the Salvage of Hay program.

As in previous years the Branch produced over one-half million copies of the Official Highway Map. The 1988 version featured the province's many new tourist facilities and attractions.

Other print projects included the Traffic Accident System (TAIS) report, brochure and poster, 1986/87 Annual Report, and the department's staff publication In-Motion.

The Branch supplied a weekly clipping service for all branches covering a wide variety of transportation areas and issued 33 provincial wide media releases.

Jack Upshall

"Sign of the Times".

Operations Division

Operations Division staff are responsible for the implementation and administration of the operational programs and management of designated provincial transportation facilities within the specified levels of service and resources. The Operations Division responsibilities are carried out through six districts and three head office branches.

The good weather during the construction season allowed for completion of a very large number of construction projects. This resulted in one of the lowest amounts of carry-over work into the next construction season. Winter maintenance was at its lowest level in many seasons. The riding quality of the highway system met the department objectives during the past year.

During the last year, 355 kilometres of grading and 787 kilometres of surfacing were completed. Unit bid prices for earthwork and base course decreased while subbase and bituminous surface course increased slightly. Additional work was undertaken on the Yellowhead Highway, in particular four laning construction immediately west of Saskatoon. Construction work continued on Highway No. 41 from Wakaw to Melfort. Work commenced on the interchange at the junction of No. 2 and No. 3 Highways north of Prince Albert.

The department took over 718 kilometres of resource roads from the Department of Parks, Recreation and Culture at the beginning of the fiscal year. Duplication of manpower and equipment was eliminated resulting in increased efficiency.

In the coming year, emphasis has to be placed on training and development for the numerous staff that are new to their positions. The division has to continue to strive for excellence in the delivery of the various programs. Details of specific programs and accomplishments are provided in the following individual branch and district reports:

Grant Hodgins
Minister
Highways and Transportation

J. R. Sutherland
Deputy Minister

M. J. Herasymuik
Operations Division

Bob Cocks
Operations Services Branch

Lorne Hamblin
Bridge Branch

VACANT
Works Branch

Norm Woodcock
Swift Current
District No. 1

Ray Gerbrandt
Regina
District No. 2

John Dunlop
Yorkton
District No. 3

Marcel Coquet
Saskatoon
District No. 4

Stu Armstrong
Prince Albert
District No. 5

Ed Bobick
North Battleford
District No. 6

M. J. Herasymuik
Assistant Deputy Minister
(Operations)

Operations Services Branch

Operations Services Branch provides executive, technical and financial services to the Operations Division.

Major Activities

Management of centralized activities related to tendering, scheduling and contract administration.

Development and control of the department's annual capital and maintenance programs and budgets.

Administration of purchasing construction and maintenance materials.

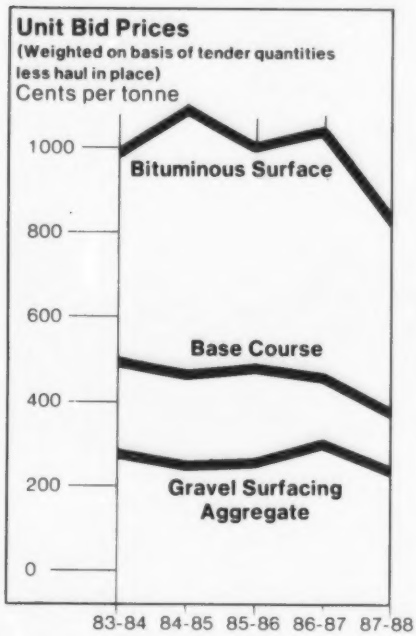
Co-ordination of cost-shared programs.

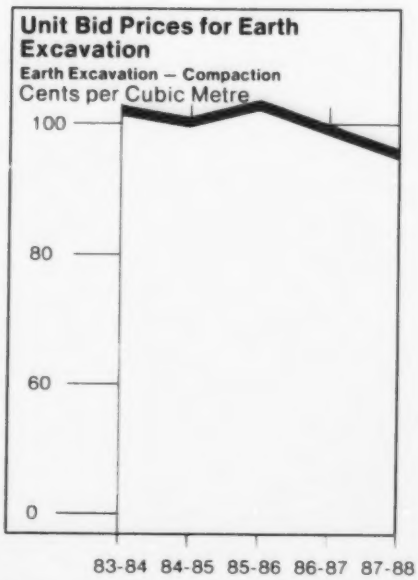
Construction Tenders

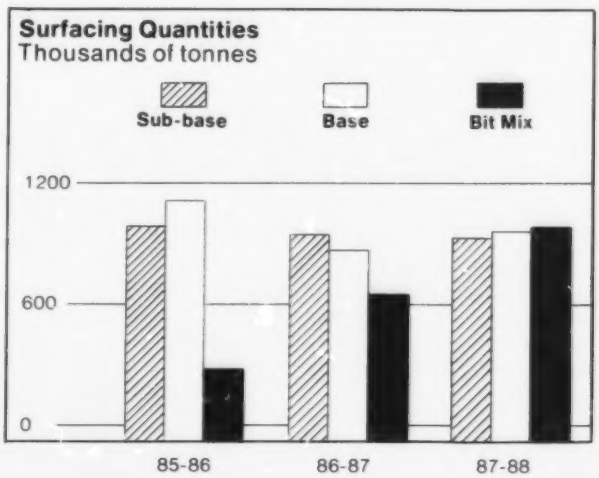
One hundred and twenty-three construction tenders valued at $46.1 million were awarded during 1987-88. In comparison with the previous year, 31 more tenders were issued with a $1.6 million increase in the value of contracts awarded.

Contracts are tendered throughout the year to provide balanced workloads for contractors. In the fall and winter, heavy emphasis is placed on processing aggregates so that much of the hauling can be done in the winter to minimize damage to haul routes and to create winter work.

Unit bid prices for earthwork and base course decreased while sub-base gravel surfacing aggregate and bituminous surface course increased compared to the previous year.







Grading

The amount of earth excavation work completed during the year was 7 987 065 m^3.

There were 357 kilometres of new construction completed with 29 kilometres of grading work underway at year end.

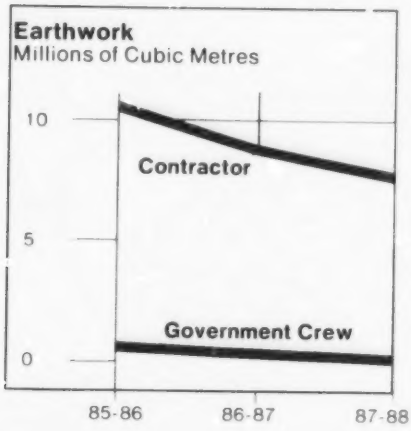
Surfacing

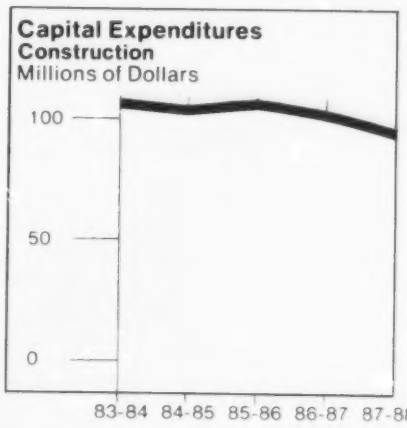
The quantity of bituminous mix on contracts in 1987-88 increased to 971 200 tonnes from 678 800 tonnes. The quantity of sub-base and base material used in 1987-88 increased to 1 888 400 tonnes from 1 819 500 tonnes in 1986-87.

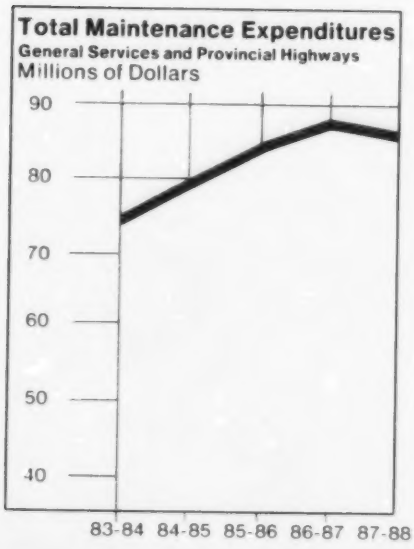
During the year 16 kilometres of oiling, 174 kilometres of pavement C, 101 kilometres of new pavement and 481 kilometres of pavement rehabilitation were completed.

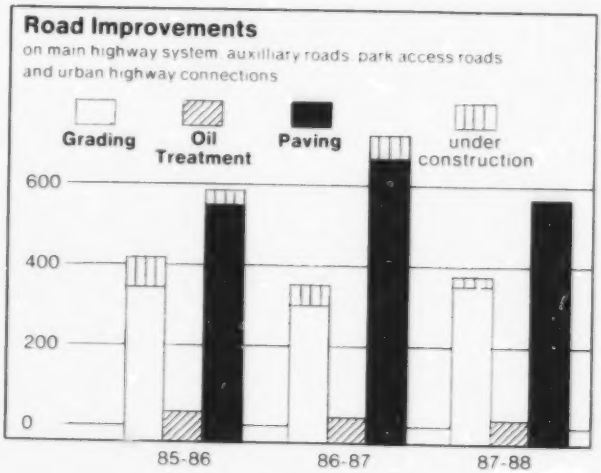
Urban Surface Transportation

Under the Urban Assistance Program $5,266,276 was provided to assist 20 communities to improve provincial highway routes.









Air Transportation

Thirty-three local governments participated in the Airport Assistance Program administered by the branch. The department provided $249,442 in assistance under the program. The department also spent $25,000 towards the installation of a non-directional beacon at one airport. $188,632 in capital costs was spent at four provincial airports.

Rural Transportation Assistance Program

Operations Services Branch administered a program to provide transportation services to communities in rural areas not presently served by other public transportation.

The provincial government, through Saskatchewan Highways and Transportation, underwrites the net operating cost of nine routes which totalled $240,803 in 1987-88.

In addition to the above routes, Operations Services also administered the bus lines into Sandy Bay and Deschambault in northern Saskatchewan. During the year $66,077 was spent on these two northern feeder service lines.

Other Highlights

Automatic railway crossing signals were installed at nine locations during the year at a cost of $117,254.

The department provided lighting at 37 highway intersections at a cost of $148,373.

86,867 calls were handled on the department's Hotline Winter Road Information Service.

348 purchase orders for construction and maintenance materials valued at $34,056,640 were processed.

841 payments to contractors were processed totalling $62,439,298.

Bridge Branch

The Bridge Branch mission is to design, construct, maintain and manage the bridge component of the department's road transportation system by providing a source of structural and bridge related expertise for other departments and government units, to established levels of service, within available resources.

Design

Design was completed for the new highway grade separation structure located on the north side of Prince Albert. This structure is part of the interchange project which will provide a direct link between Highway No. 55 to the east and Highway No. 3 to the west of the City.

Design was also undertaken for nine bridge projects involving 1 750 m^2 of roadway area. Plans were prepared for traffic barrier retrofits totalling 1 200 metres and involving 13 bridges.

The design was completed for the proposed CP Rail subway located on the Yellowhead Highway at Lloydminster.

Construction

Construction started on the interchange structure located at Prince Albert and was approximately 70% complete by year-end. A major structure was also built on Highway No. 55 near Carrot River, removing the longstanding restrictions to the movement of agricultural machinery and resource commodities.

Four other new bridges were constructed using standard modular components of precast concrete, and major structural upgrading was completed on another seven projects.

Maintenance

Bridge deck restoration projects were undertaken on five grade separation structures located near Swift Current. One of the projects involved the use of a cathodic protection system in combination with a high density concrete overlay. The remaining projects involved the repair of the deck and its protection with waterproofing membrane and pavement.

Minor repairs were completed on another 151 bridges located throughout the highway system. Six bridges were replaced by culvert installations.

The Province also participated with CP Rail in the major rehabilitation of the combination railway-highway bridge at Nipawin.

Other Highlights

Programmed inspections were done on 270 bridges and the concrete decks of 47 bridges were monitored for the corrosion of reinforcing steel.

The branch assisted in the evaluation of 20 permit requests associated with the bulk commodity haul policy, and reviewed 900 referrals for single trip overweight vehicle permits.

Assistance was provided to other department units for seven structural-related projects.

Summary of Bridge Work Done During 1987-88 on Provincial Highways

Highway Control Section	Location	Description of Work
1-17	Over Highway No. 4 at Swift Current	Major repairs on two concrete decks.
1-18	Over Central Avenue at Swift Current	Major repairs to four-span overpass.
1-18	Over 11th Avenue West at Swift Current	Cathodic protection installation on three-span overpass.
3-1	Over Little Armit River near Armit	Upgrading of a 9 m wood pile bridge.
3-1	Over North Armit River near Armit	Upgrading of a 21 m wood pile bridge.
3-11	Over Highway No. 2 at Prince Albert	Construct two-span multi-lane overpass.
8-6	Over Qu'Appelle River near Rocanville	Construct four-span bridge with precast concrete deck.
13-16	Over stream near Robsart	Construct 12 m bridge with precast concrete deck.
32-1	Over Highway No. 1 near Swift Current	Major deck repairs to two-span overpass.
55-4	Over Carrot River near Carrot River	Construct 9 span 153 m bridge with precast concrete deck.
102-29	Over Little Deer River north of La Ronge	Construct 18 m bridge with precast concrete deck.
155-03-99	Over La Loche River near Black Point	Construct 24 m bridge with precast concrete deck.
303-01	Over Turtle River near Turtleford	Upgrading of 24 m bridge with precast concrete deck.
334-02	Over stream near Avonlea	Upgrading of three wood pile bridges with precast concrete decks.
919-01	Over Cold River north of Pierceland	Upgrading of 47 m wood pile bridge.

Works Branch

Works Branch functions in four main areas: grading, surfacing, bridges and winter road construction. The branch provides these and other specialized construction services for the Department of Highways and Transportation as well as other government departments and agencies.

The branch employs between 75 and 100 people during the construction season. These include equipment operators, truck drivers, plant operators, cooks, administrative personnel and supervisors. The nature of work usually requires people to be away from home for long periods of time, generally working out of mobile self-contained camps.

Grading

One grading crew moved 294 000 m^3 of earth material with the use of private and government equipment. Work was carried out on Highway No. 165 and No. 918 at Beauval, and Highway No. 106 in Big Sandy Lake area. The crew prepared and placed cold mix on 13.9 kilometres of Highway No. 265 near Candle Lake and on Highway No. 106 in the Puskwakau River area.

Surfacing

Two surfacing crews completed various road and custom work projects throughout the province. Projects included 42 kilometres of ripping up and drying subgrade and shoulders on Highways No. 31 and No. 21. The crew hauled and placed 11 610 m^3 sand on Highway No. 30 in the Eston area. There were 8,812 depressions filled on various highway surfaces which required 886 tonnes of sand, sulphur and asphalt mix.

A good demonstration of the split hydraulic drum at work. It spreads in 3' or 5' or 8' widths — and provides a tremendous materials saving for the Yorkton shop. The idea for the split drum was perfected by Peter Stout. The device is controlled by micro-switches in the cab.

Bridge Crews

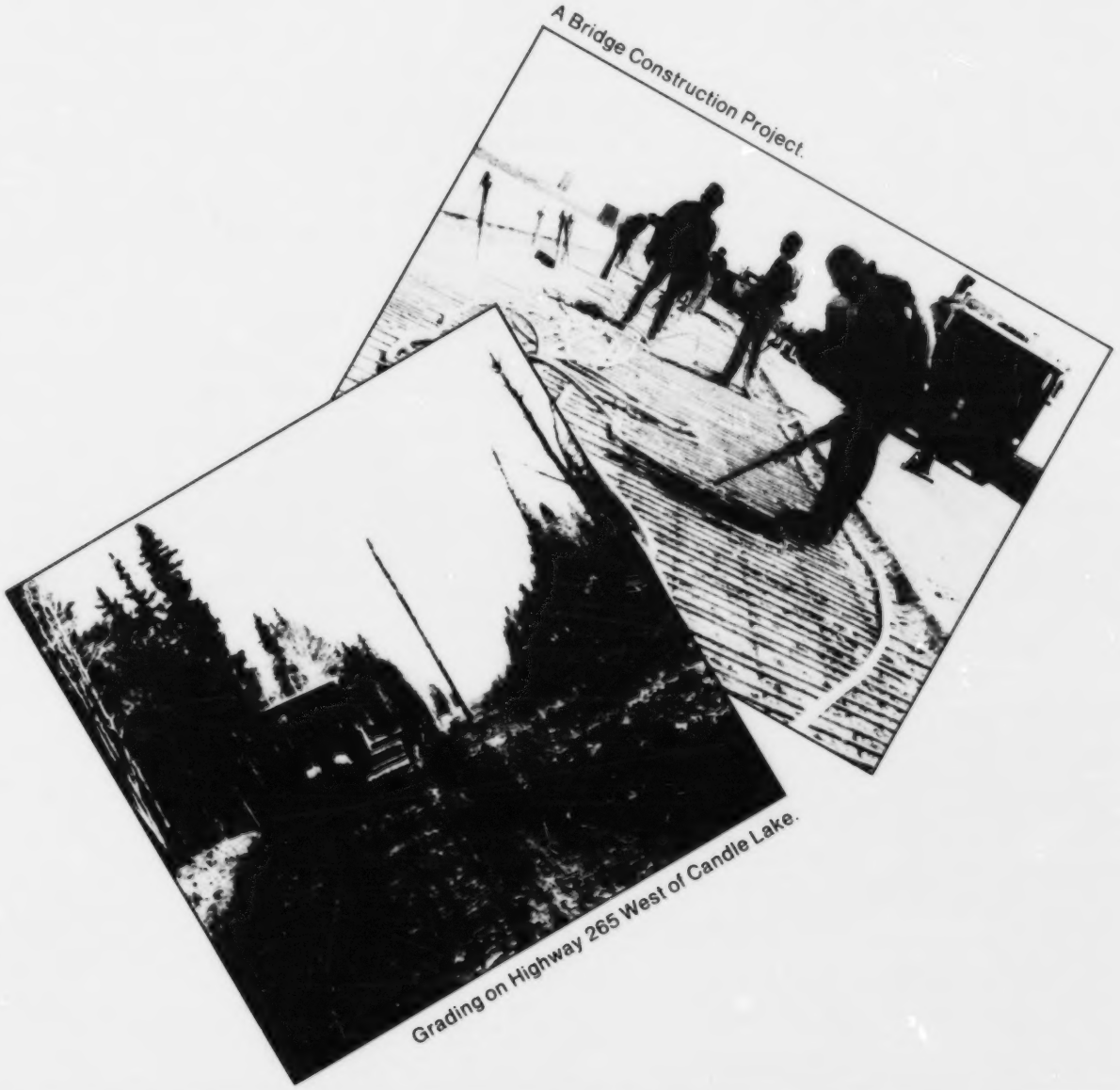
The five bridge crews constructed 22 new bridges and repaired 202 bridges for the Department of Highways, Rural Development, Duck's Unlimited and Sask Water Corporation. A total of four bridges had 2 263 m^2 of major deck repairs and waterproofing. There was also 534 m^2 of a major deck repair, Cathodic protection with high density concrete overlay on Highway No. 1 at Swift Current.

Winter Roads

43.4 kilometres of winter road was constructed to Wollaston Post over Wollaston Lake from Hidden Bay on Highway No. 905.

Training

Works Branch completed 75 man days of training in management, equipment repair and safety.



A Bridge Construction Project.

Grading on Highway 265 West of Candle Lake.

Saskatchewan
Highways and Transportation

District Offices:

- Swift Current District
- Regina District
- Yorkton District
- Saskatoon District
- Prince Albert District
- North Battleford District

Swift Current District

The Swift Current District encompasses an area in the southwest quadrant of Saskatchewan whose boundaries are the U.S. Border, the Alberta Border and a line adjoining Macklin, Biggar, Mortlach, Gravelbourg and the Port of West Poplar River. Department personnel are responsible for the maintenance, construction and design activities on all of the 4 266 kilometres of roadway within the district.

Administration

The Administration Section handles the personnel functions for the district including processing pay sheets, training requests, hiring and personnel policy interpretation for the approximately 220 permanent and seasonal employees in the district.

District staff took approximately 393 man days of training this past year encompassing the mechanical, technical, safety and management areas.

Administration staff also handles the word processing and other computer related applications for the district.

Design and Testing

The design of highway subgrades and safety improvements, illumination, and miscellaneous projects are performed by design personnel. Twenty-one kilometres of preliminary survey and five kilometres of design were completed during the year.

This section also supervises the District Materials Laboratory which processed a total of 4,500 gravel pit exploration, surfacing and subgrade construction control samples.

Subcutting Operations near Robsart.

Construction

The Construction Engineering Section supervises the capital construction, cost shared and materials location programs.

Included in the 73 kilometres of subgrade construction and 125 kilometres of pavement completed this year are the following major projects.

- Grading of 11.1 kilometres of westbound lanes on Highway No. 1 in the vicinity of Gull Lake.
- Grading and surfacing on No. 13 Highway from 24 kilometres east of Robsart to Robsart.
- Grading and surfacing of 18 kilometres of Highway No. 42 in the vicinity of Lucky Lake.
- Rehabilitation of 18 kilometres of No. 4 Highway between Rosetown and Biggar and 34 kilometres of the No. 1 Highway in the vicinity of Swift Current.

This section also supervised the production of 65 000 tonnes of cold mix and 250 000 tonnes of materials for the maintenance section.

Searches by the materials location crews resulted in the location of 421 000 m^3 of aggregate.

The Urban Assistance Program contributed $288,700 in funding for urban capital works and $52,000 to 13 communities to develop, operate and maintain community airports.

Maintenance

The Maintenance Section operates 25 section crews and three special crews located in 21 communities throughout the district.

These section crews, supplemented by private sector forces used 316 000 tonnes of processed aggregate, 81 200 tonnes of bituminous cold mix and 18 800 000 litres of liquid asphalt in accomplishing the surface maintenance activities as follows:

199 200 m^2 deep patching

6 726 000 m^2 of spot sealing

444 kilometres of seal coating

The summer maintenance activities started in mid March and continued into late November. Due to the low snowfall, winter maintenance activities were at their lowest level for many seasons.

The maintained roadway in the district consists of:

154 kilometres of gravel surface

2 425 kilometres of oil treated surface

1 490 kilometres of paved surface

166 kilometres of paved four lane surface

59 kilometres of tourist facility roadway

To maintain a fleet of 225 motorized and sundry equipment the maintenance section operates heavy duty equipment repair depots at Swift Current and Rosetown.

Regina District

The Regina District is responsible for 4 976 kilometres of provincial and public highways in the southeast corner of the province. In spite of a large turnover in supervisory staff due to the early retirement program the following accomplishments were achieved during the year.

Design

The design section carried out 88 kilometres of field survey and completed 48 kilometres of subgrade design primarily on Highway 361 west of Alida, Highway 8 north of Carnduff and Highway 11 between Craik and Davidson.

Thirty-three tender packages were prepared. The increasing emphasis on pavement rehabilitation is illustrated by the fact that 12 of the packages were for pavement resurfacing.

Significant time continues to be spent on incidental items such as subdivision approvals, right-of-way protection and fatal accident investigation.

Construction

Thirty-nine contracts were supervised with other districts included in the sand-sulphur and rubber crack filling contracts.

During the year 49 kilometres of subgrade was constructed and 92 kilometres was surfaced. Pavement rehabilitation included the resurfacing of 75 kilometres and seal coating of 513 kilometres.

Major construction accomplishments included the reconstruction of Highway 47 on the south side of Estevan and Highway 1 through the Town of Moosomin. Construction of Highway 22 between Southey and Highway 20 and Highway 334 from Corrine to Avonlea was completed. Construction on Highway 363 continued up to the Crestwynd Grid.

Maintenance

Maintenance activities are carried out by some 34 sections located in 32 communities throughout the district. In carrying out normal road repairs the maintenance section used approximately 76 000 tonnes of asphalt mix, 16 million litres of asphalt and 271 000 tonnes of aggregate. The asphalt mix plant produced 72 000 tonnes of mix. To complete winter snow and ice control, 17 000 tonnes of sand and 8 200 tonnes of salt were used. The winter hotline operation provided road information to 31,300 callers.

Maintenance assistance for urban streets was provided in 71 communities, with significant expenditures in Earl Grey and Bellegarde.

The maintenance section was assigned the responsibility for signing, approach and utility permits with 36 private sign permits being issued and signing corridors established at Craik and Bethune.

Materials

Materials engineering staff completed or supervised the preparation of 12 surfacing designs covering 173 kilometres and 2 geotechnical pre-engineering reports.

The gravel location group secured 2 new pits in the Alida area comprising some 548 000 cubic metres of gravel. 23 existing gravel pits were retested and updated.

Some 419 000 cubic metres of sand and gravel was used for maintenance and construction. Public and private individuals used 266 000 cubic metres covered by 103 separate permits.

Shareable Programs

The 4 cities of Regina, Moose Jaw, Weyburn and Estevan carried out some shareable work with the City of Regina receiving a majority of the funds. Major projects in Regina included restoration of the Albert Street Bridge, construction of the Pasqua St. and Ring Road intersection and construction of Highway 1 frontage roads at Prince of Wales Drive. Moose Jaw began restoration of the 4th Ave. Viaduct. Estevan continued work on Kensington Ave. and the resurfacing of 4th Ave.

Assistance was provided to the towns of Carlyle and Regina Beach for street work. The cost of the improvements to Highway 1 through Moosomin was shared with the town.

Assistance was provided to 7 communities for maintenance and operation of their airports with 4 communities receiving assistance for airport development or the installation of a non-directional beacon.

Other Activities

The safety improvement program included installing guardrail on 6 bridges, the installation of flashing lights at 2 highway junctions and the construction of escape ramps at 6 intersections. An auxiliary lane was constructed at the White Bear intersection on Highway 9 and sight triangles were cleared at the McLean entrance on Highway 1.

Miscellaneous projects included various drainage improvements including testing of a number of erosion control products in the Fort Qu'Appelle area. A grade raise was constructed on Highway 318 north of Carnduff.

Fourteen delineation lights were installed at various intersections and partial lighting of an interchange near Moose Jaw was completed.

Continued good service provided by the district administration and equipment repair group is acknowledged.

Hotline Road Information

For added safety
Give us a call . . . anytime

Moose Jaw	694-3860	Saskatoon	933-8333
North Battleford	446-7785	Swift Current	778-8355
Prince Albert	953-3575	Weyburn	848-2432
Regina	787-7623	Yorkton	786-1666
Rosetown	882-2791		

Your Travelling Safety is Our Prime Concern

Saskatchewan Highways and Transportation

Grant Hodgins
Minister

J.R. Sutherland
Deputy Minister

Yorkton District

The Yorkton District staff are responsible for 3 410 kilometres of public and provincial highways, including 65 kilometres of Tourist Facility Access Roads, as well as the operation and maintenance of the provincial airport at Hudson Bay.

Construction and Design

District Construction Section staff supervised a total of 29 major contracts during the year which included 9 gravel crushing contracts. Twenty-three kilometres of subgrade were constructed and 114 kilometres were surfaced.

Some of the major projects completed during the year were:

- the surfacing of Highway No. 8 from St. Philips to Pelly
- the re-surfacing of Highway No. 5 from Buchanan to Rama
- the surfacing of Highway No. 38 from the Perigord Access to south of Greenwater Provincial Park
- the grading of Highway No. 8 from Rocanville to the north side of the Qu'Appelle Valley

Three major re-surfacing contracts were completed on the Yellowhead Highway where a total of 56.8 kilometres of highway were re-surfaced. These included No. 16: from the Manitoba-Saskatchewan Border to Langenburg, from Theodore to Insinger and from Elfros to Wynyard.

Numerous other safety and drainage improvements on the highway system were administered by construction and design staff.

Maintenance

Oil treated surfaces generally continued to perform well and required only routine maintenance. Paved surfaces performed somewhat better in 1987/88. Our 1987/88 deep patch expenditures were $592,500 as compared to $858,000 in 1986/87.

Maintenance Section produced 55 000 tonnes of bituminous mix and applied seal coat on 307 kilometres of highway surfaces. An average pavement performance rating of 5.7 was attained on our oil treated surfaces.

The highway system maintained includes:

- 502 kilometres gravel surface
- 977 kilometres oil treated surface
- 1 850 kilometres paved surface
- 65 kilometres roadway within campgrounds and provincial parks
- 16 picnic and campground sites
- 1 provincial airport

The district has 20 sections crews, 3 gravel section men, and 2 sign crews located in 18 communities throughout the district. Private firms, supplementing district maintenance forces performed work under 181 day labour agreements valued at $957,407.15.

Materials

Materials Section staff completed 105 kilometres of grade hole drilling on 105 kilometres of highway, 6 kilometres of borrow pit testing and 16 kilometres of select borrow testing for subgrade and surfacing design purposes.

Gravel Location Crews identified 22 new sand and gravel deposits and re-tested 24 existing department-owned pits. The searches verified an additional 1 640 300 m^3 of granular material. Forty-one pits were re-surveyed and quantities and plans were updated.

Staff issued 22 permits to public institutions and private individuals who removed 21 351 m^3 of sand and gravel from department-owned pits this year. District construction and maintenance activities used an additional 739 900 m^3.

The District Testing Laboratory completed 12 asphalt designs and performed various tests on 4,057 material samples.

Saskatoon District

The Saskatoon District, which is the core of the province abutting all five remaining highway districts, is responsible for 2 537 kilometres of the provincial highway system. Some of the activities carried out are listed below.

Highlights

- The grading on No. 41 Highway from No. 20 Highway to east of Yellow Creek was completed. A start on the grading from east of Yellow Creek to east of Meskanaw was made. A special engineering problem is the crossing at McCloy Creek.
- District staff took part in the handling of traffic for the opening of Saskatchewan Place.

Design

The Design Section carried out 3 kilometres of highway location, 12 kilometres of field survey and 20 kilometres of subgrade design. Additional projects designed were:

- Hydraulic design for bridge replacement
- Delineation lighting at intersections
- Initial plans for the lighting of Idylwyld North
- Two Point of Interest turnouts

Numerous permit requests for subdivisions and utility crossings were reviewed.

Requests for two pedestrian crosswalks were examined.

The Saskatchewan Place Access Study was completed and is awaiting publication.

Construction

The Construction Section supervised 16 major contracts and five minor contracts in 1987-1988. A summary of work supervised is as follows:

- 42.3 kilometres of subgrade construction
- 59.3 kilometres of surfacing
- 3.0 kilometres of miscellaneous grading and paving for intersection treatments and safety improvements.
- 218 kilometres of seal coating
- 17 bituminous mix stockpiles
- 3 aggregate crushing contracts
- 1 deep patching contract

Reclaiming Asphalt Mix from No. 5 Highway west of Humboldt.

Maintenance

The Maintenance Section accomplished the following improvements:

- Deep Patching 8 915 m^2
- Thermo Patching 66.0 kilometres
- Purchased Liquid Asphalt 3 505 392 litres
- Seal Coat on Paved Highways 21.0 kilometres
- Seal Coat on Oil Treatments 186.0 kilometres
- Stockpiling of Bituminous Mix 33 177 tonnes
- Seeding Right of Way 166 hectares
- Purchased Hot Mix 682 tonnes
- Spot Seal with Dyna-Pac 14.3 kilometres
- Sand Sulphur 66.2 kilometres
- Flushing 47.0 kilometres
- Purchased Liquid Calcium 133 000 litres

Winter Maintenance Usage:

- Screened aggregate for ice control 7 689 tonnes
- Cal treat sand for ice control 3 527 tonnes
- Salt purchased 8 084 tonnes
- Purchased Calcium Chloride (Flake) 30 tonnes

The Saskatoon Road Information Service (Hotline) handled 31,817 telephone calls throughout the winter.

Area 3 participated extensively in the opening of Saskatchewan Place and carried out numerous assigned and miscellaneous custom work projects.

Materials

Materials Section completed or supervised 16 rehabilitation designs, eight surfacing designs, and three geotechnical assessments for Saskatoon, Swift Current, and Prince Albert Districts.

The site investigation, analysis, and monitoring of the McCloy Creek crossing and nearby sites on C.S. 41-01 required a major commitment of time and resources.

Materials Section undertook quality control assurance monitoring on six surfacing projects and instigated a straw blanket installation during 1987-1988 (erosion control/ re-vegetation enhancement).

Materials-related activities were adapted to the micro-computer (wherever possible) for the first time.

The District Lab conducted 8,400 individual tests on various samples taken during field exploration activities. Over 600 kilometres of highway routes were tested in the field. Six marshall mix designs were completed.

The District Gravel Location Section retested 19 existing deposits and tested eight new deposits to verify 770 000 cubic metres of gravel and 405 000 cubic metres of sand. The cost of testing was 10.0¢ per cubic metre.

Prince Albert District

The Prince Albert District is responsible for 6 156 kilometres of public and provincial highways. The district is also responsible for the maintenance and operation of the Uranium City and La Ronge Airports and the maintenance of nine gravel airstrips.

Design

Design staff completed 22 kilometres of preliminary survey and 28 kilometres of final subgrade design during the year. A study on the future location of Highway 41 in the vicinity of Melfort was completed in 1987. The study involved a detailed assessment of alternatives, various public meetings and concluded with the submission of an Environmental Impact Statement to Saskatchewan Environment.

Gravel location crews located and tested eight new gravel pits containing an estimated 575 000 m^3 of gravel. These new sources will result in considerable savings in future haul costs. These crews also completed subgrade drilling for test samples for subgrade and pavement designs on 60 kms of highways.

Construction

During the year 76 kilometres of subgrade construction was completed along with 112 kilometres of pavement. Some of the major projects completed in 1987 included:

- Resurfacing Highway 3 from Crooked River to Tisdale.
- Resurfacing Highway 3 in the Mistatim vicinity.
- Resurfacing Highway 40 from Blaine Lake to Leask.
- Resurfacing Highway 55 from Polwarth to Erinferry.
- Resurfacing Highway 35 south of McKague.
- Grading Highway 368 north of St. Brieux.
- Grading and Surfacing on the North Zenon Park Access and on a portion of Highway 335.
- Grading on 32 kilometres of log haul roads.

Maintenance

The highway system maintained includes 3 517 kilometres of gravel, 1 046 kilometres of oil treatment and 1 593 kilometres of pavement.

Some of the major maintenance activities carried out included:

- 527 000 m^2 of deep patching
- 194 kilometres of seal coating
- 81 kilometres of subgrade stabilization
- 402 kilometres of dust treatment on gravel highways

To accomplish this work the district has 34 section crews located in 26 communities throughout the district. Winter was one of the mildest on record, however, snowfall was somewhat above normal. The mild winter resulted in icing problems and salt useage was up approximately 28% from the previous winter to 8 900 tonnes.

District shop staff provided excellent service to repair and overhaul a fleet of approximately 645 units including equipment assigned to Works Branch. Maintenance section also reviewed numerous requests for subdivisions adjacent to Highways, utility crossings and administered the department's signing programs.

Other Activities

In addition to the normal administration duties, district Administration staff processed 58 material requisitions, 126 gravel and sale of material invoices, 962 construction and maintenance material invoices and 497 custom work and barge billings. Excellent results were again achieved in the area of processing accounts for payment in a timely manner.

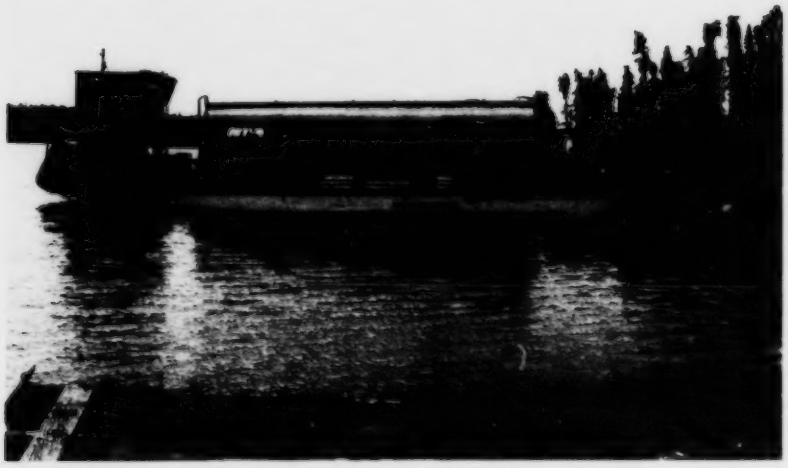
A total of eight communities participated in assistance programs that included Urban Assistance and Airport Assistance. Delineation lights were installed at eleven different locations.

Winter roads were operated from Cumberland House to Sturgeon Landing and from Highway No. 905 to Wollaston Lake.

The Wollaston Lake Barge operated from June 22, 1987 to October 5, 1987 making 146 crossings to the community of Wollaston Lake.

A new bridge across the Carrot River on Highway No. 55 was completed in 1987. A local detour using culverts was provided until the new bridge was completed.

Prince Albert Interchange Development.



The Wollaston Lake Barge operates approximately 240 miles north-east of La Ronge.

North Battleford District

The North Battleford District is located in the northwest corner of the province and is responsible for 3 750 kilometres of public and provincial highways. The district is also responsible for the operation and maintenance of the Meadow Lake and Buffalo Narrows Airports, as well as the maintenance of five gravel airstrips.

Design

Design section staff completed design on 21 kilometres of grading. Three tender packages were completed.

Detail location study was completed on one project. An "Open House" and "Public Meeting" were held in Meadow Lake to obtain public input into the location of Highway No. 304.

Materials

Pit recommendations were carried out for 6 surfacing contracts and 4 maintenance crushing projects.

Thirteen gravel pits were retested, twenty resurveyed and four new sources tested.

Preliminary soils investigation was undertaken for one grading project.

Check tests were carried out for all active construction projects.

Laboratory staff performed approximately 2,500 individual tests on various material samples taken during field exploration of construction activities.

Staff issued 29 permits to public institutions and private individuals who removed 57 850 m^3 of aggregate from department-owned pits.

Construction

During the year 27 kilometres of subgrade were constructed and 110 kilometres surfaced.

The district's construction program was administered through 13 contracts.

Surfacing was undertaken and completed on 11 kilometres of Highway No. 26 from St. Walburg south and 7.1 kilometres of Highway No. 3 west from its junction with Highway No. 26.

Surfacing was completed on Highway No. 29 with 11.2 kilometres completed during 1987.

Resurfacing of Highway No. 40 was undertaken and completed between Blaine Lake and Hafford for a total distance of 36.7 kilometres. Resurfacing was also undertaken and completed on Highway No. 16 between Bresaylor and Paynton and on Highway No. 17 from 13 kilometres south of Lloydminster to 25 kilometres south. Highway Nos. 4 and 16 in the vicinity of the Battlefords' Bridge were resurfaced.

Highway No. 21 through the Village of Pierceland was surfaced as well as the access road into the Village of Paradise Hill. The access road into the Town of Hafford was reconstructed and surfaced.

Surfacing was completed on Highway No. 17 from the junction of Highway No. 3 to 13.7 kilometres north.

Subgrade construction on the west bound lanes of Highway No. 16 between Marshall and Lloydminster was completed.

Subgrade construction on the access road into Lone Rock was undertaken and completed.

Subgrade construction commenced on Highway No. 3 west of Turtleford.

A portion of Highway No. 165 in the vicinity of its junction with Highway No. 918 was relocated with associated subgrade construction on both highways completed.

The construction section also supervised the installation of runway lighting on the Beauval Airport as well as a number of maintenance mixing, sealing, crackfilling and crushing contracts.

Maintenance

The highways system maintained by district forces includes:

- 1 490 kilometres of gravel surface
- 950 kilometres of oil treated surface
- 1 290 kilometres of paved 2-lane surface
- 20 kilometres of paved 4-lane surface
- 80 kilometres of roadway in campgrounds and provincial parks

Maintenance is provided by 27 section crews and four special crews.

District shop staff provide repair service for a fleet of approximately 350 power units and numerous pieces of sundry equipment.

Maintenance forces used 9 273 200 litres of liquid asphalt, 300 900 tonnes of processed aggregate and 38 800 tonnes of bituminous mix.

The district tendered 170 kilometres of seal on oil treatment, 40 kilometres of seal on construction and 93 kilometres of rehabilitation seal. Approximately 500 hectares of mowing was tendered as well as tenders for chemical brush control, crackfilling and ditch clean up.

Seventy-five kilometres of subgrade were stabilized with clay or calcium chloride. In addition, 95 kilometres of the Cluff Lake road was gravel stabilized with 22 800 tonnes of crushed aggregate.

Dust treatment with calcium chloride and calcium lignosulphonate was completed on 144 kilometres of northern roads.

Sixty-seven tonnes of lime were used to improve the subgrade on about 10 000 m^2 of various oil treatments and pavements.

The district tendered the crushing and stockpiling of 126 000 tonnes of traffic gravel and 118 700 tonnes of bituminous repair aggregate. In addition, 44 400 tonnes of bituminous mix were tendered.

For winter maintenance, district forces used 6 000 tonnes of salt, 6 900 tonnes of sand and 42 200 litres of calcium chloride. This effort was required to maintain good winter driving conditions in an extremely mild year in which the snowfall was below the long term average.

Highlights this year included several road takeovers and one road abandonment. Effective June 1, 1987 the district took over 190 kilometres of roads from the Department of Parks, Recreation and Culture. On July 1, 1987 the district took over the maintenance on 9.5 kilometres of oil treatment between the Village of Loon Lake and Makwa Provincial Park. Highway No. 303 east of Lloydminster was extended another six kilometres following the completion of reconstruction of the municipal road to highway standards by the Rural Municipality. Fourteen kilometres of Highway No. 904 was abandoned and reverted back to its natural state.

Other Activities

Safety improvements included the flattening of approach sideslopes on Highway No. 17 from its junction with Highway No. 40 to 24 kilometres north, on Highway No. 12 from the North Saskatchewan River to Blaine Lake and on Highway No. 55 from Meadow Lake to its junction with Highway No. 903.

Approach guardrail was installed on 3 bridges.

Under the recreational area improvements program dust treatment was carried out at Pierce Lake. Oil treatment was placed on some of the roadways at Stabler Point.

A total of four communities participated in Urban Assistance, Airport Assistance and Urban Traffic Safety Programs.

Delineation lights were installed at two highway intersections.

Summary of Kilometres of Work Accomplished 1987-1988

Control Section	Location	Grading		Surfacing						
		Comp.	U.C.	Pave. A	Pave. B	Pave. C	Pave. D	Rehab.	U.C.	H.B.C.
1-01	Moosomin, Reconst. No. 1	1.10								
1-02	Thin overlay, Moosomin – Whitewood							17.70		
1-02	Spot Improvement at Whitewood							0.30		
1-05	Spot Improvement Wolseley – Indian Head									3.03
1-05-8L	Frontage road at Sintaluta	.58								
1-07	McLean – Balgonie							12.50		
1-08-40	Pilot Butte – Jct. 46					.80				
1-13	Moose Jaw – Caronport							13.40		
1-17-00A	km 30.20 – km 30.55							.35		
1-17-00B	Thin overlay Waldeck – Swift Current							12.20		
1-18-00A	East of Jct. 4 – West of Beverley							9.27		
1-19-00A	East of Jct. 4 – West of Beverley							12.36		
1-19-00A	East – West of Gull Lake	6.29								
1-19-00B	East – West of Gull Lake	.44								
1-19-6RA	N-S Connector West of Jct. 32	1.36								
1-20-00B	East – West of Gull Lake	4.90								
2-18	St. Louis Bridge, Northbound Lane									.37
3-01	West of Armit – Erwood	4.37								
3-01	Manitoba Border – West of Ermit		15.10							
3-02	West of Armit – Erwood	.26								
3-04	East of Nistatim – Jct. 23							13.71		
3-05	Crooked River – Tisdale							21.40		
3-09	Spot Improvement Muskoday – Prince Albert									7.39
3-11	Pave Shoulder and Cub at Shell River									.10
3-17	North of Jct. 26 – East of Jct. 21			17.14						
3-17-41	Paradise Hill Access			.76						
4-10	Rosetown – Biggar (two sections)							18.46		
4-13-00B	Battleford – North Battleford							.10		
4-14-00A	Battleford – North Battleford							1.42		
4-14-00B	Battleford – North Battleford							.99		
4-14-06RA	North Battleford – Battleford							.18		
5-03	East of Tiny – Jct. 47							17.80		
5-03	Buchanan – Rama							16.71		
5-07	West of Carmel Access – Bruno Access							8.20		
6-07	North Hill in Qu'Appelle Valley							3.00		
7-01-00A	Circle Drive Saskatoon							8.40		
7-01-00B	Circle Drive Saskatoon							3.30		
7-02-08R	Vanscoy	.15								
8-05	Rocanville – Qu'Appelle Valley	11.93								
8-05 & 06	Qu'Appelle Valley	5.22								
8-09	St. Philips – Pelly			16.75						
9-02	Carlyle – Spot Improvement									1.50
9-03	Kenosee Lake – North of Jct. 48							13.71		
9-04	Kenosee Lake							.16		1.20
11-10	Jct. 11 and Corman Park Saskatoon									.40
11-10	Mapsite at Saskatoon (km 2.6)									.08
12-02	Overlay North of Hepburn – Petrofka Bridge							16.80		
12-03	km 7.3 – Jct. No. 3		8.37							

		Grading		Surfacing						
Control Section	Location	Comp.	U.C.	Pave. A	Pave. B	Pave. C	Pave. D	Rehab.	U.C.	H.B.C.
13-01	Manitoba Border – Redvers							19.40		
13-14	km 37.28 – km 38.08	.80								
13-16	East of Robsart – East of Jct. 21	23.50				23.50				
14-11-00A	Circle Drive Saskatoon							2.78		
14-12	Stockyard Access									40
14-12	Saskatoon – Mapsite									08
14-12	Loadmeter Site – East of Asquith									14
14-12	Jct. 7 West – Saskatoon							1.84		
14-12-6L	Saskatoon							.13		
16-11	Manitoba Border – Langeburg							14.93		
16-14	Theodore – Insinger							15.04		
16-15	Theodore – Insinger							1.06		
16-17	Elfros – Wynyard							25.73		
16-17-8L	Wynyard Service Road							1.48		
16-20	Jct. 2 – Clavet							26.92		
16-23-00B	Jct. 11 – East of Langham	14.48								
16-26-00A	North Battleford – Battleford							2.04		
16-26-00B	North Battleford – Battleford							.72		
16-27-00A	North Battleford – Battleford							.80		
16-27-00B	North Battleford – Battleford							.61		
16-27-6LB	North Battleford – Battleford							.07		
16-28	Paynton – Bresaylor							12.95		
16-29-00A	Marshall – Lloydminster	2.60								
16-29-8RA	Gravel Roads at Marshall	.24								
16-30-00A	Marshall – Lloydminster	14.60								
16-30-8LB	Gravel Roads at Marshall	.51								
16-30-8RA	Gravel Roads at Marshall	2.14								
17-04-40	Jct. 17 – Lone Rock	8.77								
17-05	Lone Rock Access – Lloydminster							12.25		
17-07	Jct. 3 – N. of Meridian Bridge	7.85								
18-02	Oxbow									.99
18-04	Outram – Torquay							11.35		
18-05	11.8 km west of Torquay – Oungre					2.95				
21-12	Spot Improvement Pacific Ave. Kerrobert									.63
21-19	Pierceland	1.08		1.08						
22-06	Southey – Earl Grey	14.09				26.62				
23-04-40	Zenon Park – Jct. 335	4.01				4.01				
26-03	S. of Spruce Lake – St. Walburg			12.14						
26-04	S. of Spruce Lake – St. Walburg			3.72						
29-02	Wilkie – Cloan Grid Road				11.28					
30-02	Repair Grade Eston – Brock	9.60								
32-02	East of Cabri – East of Shackleton				11.14					
32-03	East of Cabri – East of Shackleton				11.56					
32-04	Prelate – Leader	11.18								
35-02	Tribune – Oungre	11.75				11.75				
35-14	West of Jct. 349 to South of McKague							15.74		
38-02	Perigord – Greenwater							12.30		
39-03-30	Scale Site at Estevan	.46								
40-01	Leask – Blaine Lake							24.77		
40-01	Blaine Lake							.32		
40-02	Blaine Lake – Hafford							36.33		
40-02-41	Widen East Access – Hafford									.37
41-01	East of Yellow Creek – Jct. 20	12.90								
41-01	West of Ethelton – East of Yellow Creek	3.77								

Control Section	Location	Grading		Surfacing						
		Comp.	U.C.	Pave. A	Pave. B	Pave. C	Pave. D	Rehab.	U.C.	H.B.C.
41-02	Jct. 20 – East of Wakaw				13.48					
42-03	E. Jct. 19 – Central Butte	6.40				6.40				
42-04	Lucky Lake – Jct. 342	18.53				18.53				
44-03	Gardiner Dam									2.14
46-01	Balgonie					1.00				
47-01	S. of Jct. 18 – Valley Str. Estevan	1.13		1.13						
47-01-08	Estevan Service Road					.77				
47-01-08	Estevan Service Road	.77				.77				
47-03	Stoughton – Handsworth									4.13
55-10	Overlay Polworth – Erinferry							8.64		
55-11	Overlay Polworth – Erinferry							10.35		
55-16	Jct. 26 – Pierceland					12.65				
56-01	Jct. Old No. 1 – Limit of Indian Head			1.65						
60-01-00A	Saskatoon							.73		
106-03	Oiling (km 19) Puskawau River						7.60			
165-04	East of Beauval	2.57								
265-01	Grade/oil Access – Candle Lake Provincial Park	3.04								
303-01	Turtleford to 12 km west	3.40	3.67				7.60			
303-02	Extension E. of Big Gully Creek	6.84								
318-01	North of Carnduff	1.33								
334-01	East of Avonlea to Avonlea	1.24				1.24				
334-02	Avonlea	16.40				16.40				
334-02	Avonlea					7.20				
335-01	Jct. 23 – 9.8 km west	9.83				9.83				
339-01	Brier Crest – Jct. 39	19.25				19.25				
342-05	Plato South	10.35				10.35				
357-01	Pine Creek	.20								
363-01	km 32 – Crestwynd Grid	12.70								
368-01	S. of St. Brieux – Pathlow	6.45								
369-01	N. of Jct. 10	5.25								
378-01	East of Jct. No. 4	.75					.75			
918-01	No. 165 North		1.58							
940-01	Pancake Road	7.00								
942-01	Cowan Road	9.00								
946-01	N. of Leoville – Caribou Trail	7.85								
953-01	Grading – Anglin Lake Road	9.60								
963-01	Grading – Steepbank Road	16.40								
	DISTRICT 1	93.35	–	–	22.50	58.78	–	52.64	–	.63
	DISTRICT 2	80.80		2.78		88.75		91.52		10.82
	DISTRICT 3	27.23	15.10	16.75				105.05		
	DISTRICT 4	31.30			13.48			69.10		3.64
	DISTRICT 5	73.18	8.37			13.84	15.95	94.61		7.86
	DISTRICT 6	51.35	5.25	34.84	11.28	12.65		68.78		
	PROVINCIAL TOTAL	357.21	28.72	54.37	47.26	174.02	15.95	481.70	–	22.95

Control Section – A permanent unit of the highway system which becomes the basic reporting unit for construction and maintenance costs, service life characteristics, and various other data.

Grading – Completed (Comp.) – Grading completed within the year being reported.

Grading – Under Construction (U.C.) – The under construction portion of the project which is being carried over to be done in the next construction season.

Rehabilitation – Work such as pavement resurfacing, carried out to restore a roadway to the standard to which it was constructed. This is warranted when maintenance operations are no longer adequate or appropriate. Differs from upgrading in that the design standard is not improved.

Pavement "A", "B", "C", and "D" – Represents different types of surfacing structures.

OIL – Oil treatment. Cold asphalt mix surface treatment of nominal thickness.

Surfacing – Under Construction – The paving portion of the project which is being carried over to the next construction season.

Engineering Division

The Engineering Division is responsible for the development of policies, standards and procedures for the design, construction and maintenance of the provincial highway system.

The division continues to emphasize innovation to increase the effectiveness of managing and delivering the department's programs.

Major organizational changes occurred with the amalgamation of the Traffic Safety Engineering Branch, the Traffic Analysis section from the Transportation Planning and Research Division and the Road Design Branch to form the Design and Traffic Safety Branch. This is proving to be an effective change.

Continued emphasis has been placed on the development and enhancement of information systems for use by department managers. The development of the pavement information system is progressing steadily with implementation scheduled for the fall of 1988. This system will allow the evaluation of various rehabilitation strategies and their implications over time.

Joint research programs with the University of Saskatchewan continued into the use of lime for enhancing the properties of soils for embankment construction and the development of a site investigation manual for southern Saskatchewan.

A personal computer program for designing lighting installations was brought into use for projects through urban areas.

The preparation of new trucks was centralized in two shops in order to increase effectiveness.

A memorandum of understanding concerning uniform truck weights and dimensions was signed by all provinces. This is a major step in improving the uniformity of regulations covering weights and dimensions and in improving the safe and efficient movement of goods by truck. The new weights and dimensions regulations are currently being prepared.

Grant Hodgins
Minister
Highways and Transportation

J. R. Sutherland
Deputy Minister

Don Metz
Engineering Division

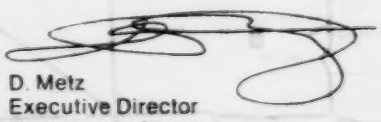
Al Popoff
Design and Traffic Safety Branch

John Palaschuk
Equipment Branch

Garry Heiman
Surfacing Branch

Barry Martin
Maintenance Branch

Al Widger
Materials Testing
Geotechnical Branch



D. Metz
Executive Director
Engineering Division

Geotechnical and Materials Branch

To provide specialized geotechnical and materials support to department executives, Engineering, Operations and Planning and Research Division in the areas of policies, standards, specifications, procedures, laboratory testing, field testing and training within allocated annual funds.

Standards and Policies

Work continued on many studies related to geotechnical standards and policies. A new select sand specification was developed. A study was continued on pavement C construction, design and performance.

Work continued on the Manufactured Materials Manual. New specifications were developed for priming grade emulsions and the recycling grade emulsions specification was modified.

The branch managed and directed the lime research project at the University of Saskatchewan. A subgrade suction research project was continued at the test track with the U. of S.

Consultation Services

Geotechnical and Materials Branch took part in approximately 20 design reviews as well as providing formal comments or recommendations on approximately 20 projects. Branch personnel conducted in excess of 75 job inspections to provide assistance, as well as attending 40 district meetings.

The branch provided ongoing technical support labour and supervision during the development of the test track instrumentation.

Lab Services

The Department Central Lab conducted more than 13,900 tests to evaluate materials for highway design, construction, maintenance performance and research. In addition 5,300 tests were completed on 2,400 asphalt product samples to check for specification compliance. This was a 28% increase in numbers of asphalt samples tested over 1986-87. Lab testing was conducted for the following special studies.

- Kneading compaction testing
- Recycling procedures and recycled mix designs
- Stripping and stripping potential
- Materials testing for rubber asphalt crack sealants
- Hveen stabilometer

Forty-five nuclear density meters and four asphalt meters were serviced and calibrated for use on construction projects. Two new thin lift nuclear density meters were purchased.

The branch provided 65 portable labs and six coring machines to the districts for quality control testing on construction projects. Five new asphalt lab trailers were obtained and equipped. All existing asphalt labs were converted from propane to electricity.

Traffic paints were evaluated in order to pre-qualify materials for tendering. Quality control testing was completed on glass beads.

The Central Lab provided all laboratory services for Regina District as well as asphalt mix designs for Swift Current and North Battleford districts. A total of 37 Marshal Mix Designs were prepared. Speciality testing of asphalt mixes was provided for all districts. Central Lab provided all specialized soils testing for the department.

Central Lab hosted and participated in the National Asphalt Mix and Asphalt exchange program in order to ensure accurate testing procedures and results are achieved. A mini mix exchange was conducted with the district labs to check on uniformity of test results.

Site Investigation

Site investigations which included test drilling, soil sampling and soil property testing were completed on a number of small bridge sites. A detailed investigation and site instrumentation was continued on the McCloy Creek crossing on proposed Highway No. 41. Drilling and sampling via barge was completed for the Saskatchewan Water Corporation on the Riverhurst Project at Diefenbaker Lake. A total of 2 929 metres of test holes were bored.

A joint site investigation research program with the University of Saskatchewan was continued. A second draft Site Investigation Manual was developed as a result of this work.

Monitoring of instrumentation and interpretation of data was continued on various sites throughout the province for long term analysis of landslide potential areas. A report covering all slope indicators being monitored was updated.

Surface Condition Testing

Benkelman Beam deflection tests were completed on 2 320 kilometres of pavements resulting in a total of 16,320 tests. An additional 26 sections were tested for urban centres for research purposes. A study was commenced using historical beam data to improve data interpretation. Riding quality was assessed on 13 000 kilometres of pavements and five runs on 7 600 kilometres of oil treated surfaces using the car road metres for a total of 50 000 kilometres of testing.

Skid tests were taken on major bridge decks and overpasses to detect and/or study slippery conditions for safety concerns.

Bearing strengths of highways were obtained by a dynamic vibratory system for a continuing study by Technical Research Branch.

The Dynamic Cone Penetration test was introduced as a method of determining or evaluating insitu subgrade strength. A correlation of Benkelman Beam deflections with pavement modified structural number was completed using the DCP test results.

The branch provided technical support in developing surface condition testing procedures and requirements for PMIS. The PURD was used to collect surface condition data on 1 300 kilometres in the PMIS trial network. An additional 3 400 kilometres of the main system was also collected.

Staff Training

The branch reacted to the department's technical training needs by increasing its involvement in technical training.

A total of 44 days of training were given in the following classes:

- Mix Design and Control (3 courses)
- Asphalt Lab Seminar (2 courses)
- Lab Testing Techniques (3 courses)
- Maintenance Basic Soils (6 courses)
- Maintenance Basic Asphalt (5 courses)
- Subsurface Drainage Jetting Demonstration.

Branch staff took a number of development courses.

Environmental Liaison

Geotechnical and Materials Branch continued its role as the department's official liaison with the Department of Environment. This involves a compilation of the department's capital grading program for submission to the Department of Environment for environmental approval. The branch also reviewed and provided comments on environmental legislation or guidelines and represents the department on the Environmental Review Panel.

As the official liaison with the Department of Culture and Recreation on heritage resource concerns relating to the capital program, the branch submitted and received approval for the current projects as well as obtained clearance for projects on the long range program.

Design and Traffic Safety Branch

The mission of the branch is: to promote safe and economical provincial highways by managing the development of standards, policies and procedures governing geometric and hydraulic designs, roadway illumination, roadside development and traffic control devices; and to provide traffic engineering services and guidance to the department by managing data collection systems about traffic characteristics and special studies. To achieve this mission the branch is responsible for the following activities:

- developing standards, policies, procedures and specifications governing geometric design, hydraulic design, roadway illumination, roadside development and traffic control devices.
- providing specialized engineering guidance and advice to senior management, six districts, consultants, other branches, and other roadbuilding agencies on geometrics, hydraulics, roadside development, highway location, traffic control devices, data collection, traffic safety and traffic characteristics.
- providing traffic engineering services and guidance to the department and related agencies and manage data collection systems about traffic characteristics supplemented by special studies and projects.
- managing the traffic control devices along provincial highways to ensure uniformity and adequacy and to administer the private signing adjacent to highways.
- managing a central traffic accident information system for Saskatchewan and providing relevant data to all users.

A. Traffic Engineering Services

The objective of the section is to provide specialized traffic engineering services and guidance to the department and related agencies, to manage traffic data collection systems for traffic characteristics and traffic accidents and to undertake special studies and projects.

1) Traffic Accident Information System

The Traffic Accident Information System (TAIS) has now completed nine years of successful operation. Detailed information about 350,000 traffic accidents is available to those responsible for traffic safety The data is being used extensively to develop and monitor countermeasure programs.

The ninth annual report which summarized the 1987 accidents was published and 4,000 copies were circulated. To gain wider coverage and create greater awareness 10,000 copies of a pamphlet and 1,000 posters highlighting TAIS information was also distributed.

About 1,100 customized reports were distributed to local governments at year end. Throughout the year, specialized reports were made available to user agencies on a monthly and quarterly basis.

Comprehensive accident summaries and analysis for improved planning of traffic accident countermeasures on provincial highways were completed.

2. Safety Improvements and Studies

The department continues to emphasize safety improvements on provincial highways. Improvements at problem locations and overall system safety improvements continue to be an effective means of upgrading the highway to reduce accidents and injuries. There has been a reduction of 26% in the injury/accident rate in the last 10 years on the provincial highway system.

The unit participated with district offices in 45 intensive reviews concerning traffic operational problems, speed zone requests and accident prone locations. Fourteen locations for railroad signalization were reviewed and the necessary coordination was provided between the Railways, Canadian Transportation Commission, Operation Services Branch and Capital Program Planning Branch.

Several research projects were undertaken including an evaluation of flexible roadside delineators for the positive guidance of traffic, an evaluation of the effectiveness of the 60 kilometres per hour speed zone when passing highway workers and a study of the use of advance warning signals at railway crossings.

A user guide to Common Traffic Safety Engineering Studies was prepared and distributed to district staff.

3) Traffic Analysis

The traffic analysis function, in addition to routine data collection, encompasses special traffic studies, research projects, and provides specialist advice and assistance on matters relating to traffic characteristics. Specific activities undertaken involved obtaining traffic volumes and vehicle classification counts on the provincial highway system. Travel on the provincial highway system increased by 2.5% from 1986 to 1987.

Technical assistance was provided to the pavement management information system , heavy truck accident study, weigh scale planning and evaluation of weigh-in-motion/vehicle classification systems.

A traffic monitoring guide for the use and interpretation of traffic data was prepared and distributed to district staff.

A technical paper entitled "A Simplified Low Cost Approach to Province Wide Travel Demand Estimating" was prepared and presented at the 1987 RTAC Conference.

B. Traffic Control Devices

Uniformity of traffic control devices is an important element in maintaining a safe and efficient highway system. Signs and signals have an important function in regulating, warning, guiding and providing information to the motorist.

During the year, nine policy/standards were completed for the Saskatchewan Traffic Control Devices Manual. Approximately 14,000 signs were ordered and delivered to fulfill the department's signing obligations.

Lowering the levels of signs in stock has become a priority. An improved ordering procedure was established that better reflects the actual sign requirements.

Legislation and policies were amended to expand the private signing opportunities for both rural and urban businesses and services.

C. Road Design

In the area of geometric and hydraulic standards the Hydraulic Manual was expanded through the addition of the structural design section. Additions to the Design Manual included updates on cross section standards and metric plans for safety barriers.

Design enhancements included the initiation of a review on the utilization of electronic notebooks for field surveys and acquisition of a PC based roadway lighting program for undertaking specialized lighting designs.

The branch undertook a thorough review and recommendation for the use of passing lanes within the provincial highway system. The study priorized sites for a trial construction program commencing in 1988.

The branch continued to provide on-going consultation with the district and others with respect to geometric designs, culvert hydraulic, roadway lighting and roadside development, including the field review of designs as detailed by project scheduling.

Equipment Branch

Equipment Branch provides administrative, consultative and technical guidance on all issues related to the department's equipment fleet. Major areas of responsibility are:

- Develop the annual Equipment Budget.
- Purchase all equipment and related items.
- Manage and operate the department's Equipment Management Information System (EMIS).
- Set rental rates for department owned equipment and for equipment used on Saskatchewan Highways and Transportation contracts and projects.
- Develop policies and procedures related to equipment repair and maintenance.
- Administer the department's mobile/radio telephone communications system.
- Provide technical guidance and expertise on equipment repair and operation.
- Administer the department's fleet of C.V.A. vehicles.

Equipment Fleet

The department's current fleet consists of 2,729 units, including trucks, tractors, graders, mowers, compactors, sweeper brooms, trailers, camp equipment and heavy construction equipment.

The department has now centralized the preparation of new trucks at Saskatoon and Prince Albert. Previously the trucks were prepared at all eight repair depots.

In addition provincial standards have been set so all new trucks are equipped the same.

Centralizing the preparation and standardizing the equipment that goes on trucks should result in considerable savings to the department.

Fleet Operation

The cost of operating the department's equipment for the year was $18.8 million. Repairs cost $6.0 million, fuel and other operating costs $4.8 million, ownership costs were $3.0 million and $5.0 million was spent on Equipment licences and administration.

Equipment Purchases

In 1987-88, $2.8 million was expended on new equipment acquisitions. The current capital cost of Saskatchewan Highways and Transportation equipment fleet is $69 million. 85 requisitions were raised to purchase major equipment, support equipment, shop equipment and tools.

Rental Rates

Equipment Branch sets rental rates for equipment that is used on an hourly basis on highway construction projects. These rates are used as a guideline by the construction and roadbuilding industry. The rates were distributed to 300 contractors, equipment dealers, trucking firms, towns, cities and other government departments and agencies.

Rental rates for department owned equipment were calculated on a provincial basis. These rates are set to recover the costs of owning, operating, repairing and administering the department's equipment fleet.

C.V.A. Fleet

Central Vehicle Agency supplies cars and light duty trucks to the department. The department leased 197 units in 1987-88 on a non-maintenance lease. Under this arrangement, the department is responsible for maintenance and operating costs and repays C.V.A. for purchasing the vehicles. 208 units were under a full maintenance lease. The department pays for the units based on the number of kilometres driven. C.V.A. bears all costs for operating and maintenance.

Maintenance Branch

The mission of Maintenance Branch is to develop and update policies, standards and practices for cost effective maintenance of provincial transportation facilities; to provide expert engineering advice and information regarding maintenance practices and procedures; to provide pavement marking services for provincial highways and airports; and to administer all vehicle weight and dimension legislation for provincial highways and roads including control of overweight and overdimension vehicles.

Program Standards

During 1987-88 the department maintained 24 827 kilometres of provincial highways and provincial roads. The system was composed of 9 335 kilometres of staged or full pavement, 1 515 kilometres of light pavement, 8 117 kilometres of oil treatment and 5 860 kilometres of gravel. The Department also maintained 426 kilometres of tourist facility roadways and sites. The highway system consists of 684 kilometres of four lane highways and the two lane highways are divided into 2 789 kilometres of arterial highways, 6 266 kilometres of collector highways, 9 729 kilometres of local highways and 5 359 kilometres of provincial roads.

The approved 1987-88 maintenance budget level of $87.48 million represented no change from the 1986-87 budget level. Despite this, the department was able to meet or exceed its objectives for surface maintenance. The Riding Comfort Index on oil treatments ranged from 5.7 to 5.8 throughout the year as compared to the 5.6 objective. This was achieved with reduced funding as the emphasis on maintaining the high volume paved highways was continued. The department continued its program of long life rubber asphalt cracksealing as a long term plan to replace the conventional procedure which must be repeated each year.

Due to vacancies created by staff retirements and transfers, little work was done on the maintenance manuals. The Maintenance Practice and Procedures manual reached 83% completion as six new sections were added and twenty-one sections were revised. The Maintenance Policy and Standards Manual remained at 95% completion as five sections were revised.

Ten reports were prepared for executive and district management analyzing maintenance costs, procedures and organization. The base maintenance allotments were updated for the 1988-89 budget and assistance was given to Operations Division in preparing the budget document. The budget continued the trend of increased emphasis on maintaining the high volume, high capital investment paved highways, with less emphasis on oil treatments and gravels.

No changes were initiated for the Maintenance Management Information System. However, branch staff provided considerable assistance in development of the Pavement Management Information System and linking of the two systems. This included changes in the cost distribution system to provide more meaningful maintenance management information.

Pavement Marking

The branch striped 23 415 kilometres of centreline and 20 719 kilometres of shoulderline. This was 3 830 kilometres above the original objectives and was 2 630 kilometres above the previous year. A total of 23,772 pavement signs were also marked, compared to an original objective of 20,000; this was also 2,620 above the previous year. By November 30th, over 98% of the highway system was at a service level of three or better. This is the highest service level achieved for pavement markings since the rating system was developed. Two airports were striped during the year, both by private contractors. The department initiated a program of providing long life "permanent" markings in high wear areas near urban centres. In 1987 a total of 17 500 metres of stripe was applied This was 167% of the original objective and is 9 600 kilometres above the previous year.

A fifth large high speed pavement marking machine was also introduced during 1987. This means the entire fleet has now been replaced with the high efficiency, high production machines. The high level of service and increased program was achieved within the original budget allocation. This can be attributed to new equipment and excellent weather.

Weights and Dimensions

During the year a total of 35,757 permits were issued for overweight and overdimension loads. This represented a decrease of 121 or 0.3% over the previous year, but it is 1,820 or 5.3% above the average of the previous five years. The 23,724 permits issued by the Permit Office in Maintenance Branch was less than the last two years, but is above all previous years. The number of permits issued by the districts was 770 which indicates a continuing decline. The number of weight and dimension permits issued by the Central Permit Office increased to 11,263 compared to 9,905 in 1986-87, over 12,000 in 1985-86 and 1984-85, 8,041 in 1983-84 and 0 in 1982-83.

During the year the branch head was heavily involved in the Vehicle Weight and Dimension Implementation Committee. Eight committee meetings were held across Canada during the year including five public meetings to receive comments on the proposed weight and dimension limits. The committee presented its technical report to the Council of Minister's Responsible for Transportation and Highway Safety in September.

The report was accepted in principle, but was not accepted for implementation. After further review and compromise a Memorandum of Understanding, acceptable to all Ministers, was signed in February establishing a set of weight and dimension limits for interprovincial transport on a system of designated highways.

The implementation committee was replaced by the Interjurisdictional Committee on Weights and Dimensions. This committee is to monitor implementation of the agreement and to propose further research on heavy vehicles for future regulatory changes. The branch head continues to represent the province on this committee.

As a separate initiative the provinces of British Columbia, Alberta and Saskatchewan are implementing the original technical recommendations presented to the ministers in September. Manitoba is also expected to join this initiative. This initiative will provide for increased transportation productivity and efficiency without compromising traffic safety or the highway infrastructure.

Surfacing Branch

The mission of Surfacing Branch is to develop and review surfacing policies, annual rehabilitation programs and central gravel resource information; and to provide expert knowledge in pavement design, construction and maintenance.

Pavement Management

The Pavement Management Information System (PMIS) has progressed to final system design. The PMIS is the first department system to get data from the corporate data base. The PMIS is projected to be operational in October of 1988.

The annual rehabilitation program was developed covering 1 083 kilometres of highway at a cost of $50 million dollars. An enhanced program was developed to reduce some of the rehabilitation backlog. Thin overlays were used on suitable projects to increase new asphalt concrete wearing surfaces.

Standards and Policy

The use of asphalt type and mix design was reviewed in regard to rutting. The mix design criteria were modified due to the findings of a full study.

A field study was completed to develop specifications for paving in late fall. The ability to achieve hot mix compaction in cold weather can now be predicted.

Staff Training

The branch headed the development of a course on paving equipment operations that will be open to the consulting industry, contractors and department staff.

The branch co-ordinated a seminar by The Asphalt Institute to train Saskatchewan engineers in the latest asphalt technology.

Organization Change

The gravel section was transferred to Engineering Division Administration due to the early retirement program and resulting reorganization. The technical inputs are still the responsibility of Surfacing Branch.

Transportation Planning and Research Division

Grant Hodgins
Minister
Highways and Transportation

J. R. Sutherland
Deputy Minister

Phil Pearson
Transportation Planning and Research Division

Roger Couturier
Planning Support Branch

Neil Petrovitch
Transportation Policy Branch

Bernie Churko
Transportation System Branch

Andy Horosko
Technical Research Branch

Masood Hassan
Capital Program Planning Branch

The Transportation Planning and Research Division completed its fourth full year of operation in 1987-88. The division responds to a wide variety of issues as outlined in the mission statement:

- To formulate policies and programs for the purpose of developing improved transportation systems for the province and to plan for a safe, efficient integrated multi-modal transportation system.
- To prepare initiatives, interventions and responses to further the best interests of Saskatchewan transportation users.
- To provide information and specialized technical assistance to other departments and agencies of the provincial government and to communities, carriers and transportation users within the province. This includes the development, implementation and monitoring of policies and practices for road movement of dangerous goods.
- To arrange for the provision co-ordination of the technical research required by the department.

During 1987-88, air carrier activity in the province was monitored on an ongoing basis. This included a major review of Canadian Airlines International (CAI) services to and from Saskatchewan. A submission to CAI was made which assisted in obtaining improved air carrier service to Regina and Saskatoon.

Division staff, worked jointly with the other three western provinces to develop a rail rationalization proposal. The proposal is to be submitted to the Federal Transport Minister for his consideration as a revision to the National Transportation Act.

Considerable efforts were expended on northern transportation issues. A review of the barge operations on Lake Athabasca was conducted. The barge carried almost 11 000 tonnes last year, an increase of about 4 000 tonnes over 1987. The increase was primarily due to the construction of the SPC transmission line.

A "Northern Passenger and Commodity Movement" study was completed during the year. The study identified passenger and freight volumes into the region by all modes of transportation and will provide input for the development of capital programs in the north.

Division staff provided input into a construction project for an access road to Black Point (La Loche) from Highway No. 155. The program called for construction of the road under a heavy equipment training program administered by the Northern Institute of Technology. The project utilized local employment with wages paid by the Department of Social Services.

A new automated traffic control system was developed and installed at the Petrofka Bridge on Highway No. 12 in 1987-88. Drivers operating overweight trucks are able to activate a set of stop lights by means of a radio control unit and cross the bridge while other traffic remains stopped. The system has resulted in lower freight costs to the Key Lake mine without the necessity of making costly repairs to the bridge.

Transportation research projects included the installation of a piezoelectric technology based weigh-in-motion/vehicle classifier system on Highway No. 11 south of Saskatoon, analysis of a capacitance mat weigh-in-motion system and the evaluation of incorporating a low speed weigh-in-motion system into the proposed Estevan weigh scale station.

There was active participation on the Strategic Highway Research Program (SHRP) and its Canadian counterpart. One of the division staff will be Canada's representative in Washington on the SHRP program for 1988-89.

P. M. Pearson
Executive Director
Transportation Planning and Research Division

Technical Research Branch

The mission of the branch is:

- To facilitate and coordinate technical research and development activities in support of Saskatchewan Highways and Transportation priorities.

Specific objectives of the branch are:

- To lead and coordinate technical research and development directed at improving Saskatchewan's highways and other provincial transportation facilities
- To make recommendations and/or provide assistance in implementing and developing new equipment, methods, materials or procedures
- To improve transportation safety to reduce the incidence and severity of accidents
- To research and support development of Saskatchewan materials and manufactured products for application in the transport sector
- To develop and utilize the pavement test track for accelerated testing and to provide fundamental knowledge of highway materials behaviour
- To encourage, monitor and participate in technical research activities involving other agencies and organizations
- To support technology transfer by disseminating research and development information; and providing a forum for technical exchange.

Materials Research

Materials research accomplishments included the continuation of eight long term research projects, assistance with the test track upgrading project and the preparation of several technical reports and documents.

Data collection and performance evaluation continued on long term research into:

- the performance of variable overlay thicknesses
- the performance of staged and thin pavements
- the performance of seal coats utilizing high float asphalts
- the performance of ash from coal-fired power stations as a base course material
- the performance of various thin overlays
- the performance of geotextiles
- the use of specialized emulsions in hot mix asphalt concrete recycling.

Terms of reference were prepared, consultants commissioned and monitored, for the following projects:

- lime modification of cohesive clays
- thin overlay crack mapping
- high float seal coat performance crack mapping
- hot recycling of cold mixes
- determining moisture and density retention for thin pavement structures
- test track experiment
- crack reflection analysis of the variable thickness test sections
- a statistical analysis of the data from the geotextile test section
- tall oil pitch test section — final report
- pavement analysis research program.

Transportation Research

Transportation research accomplishments included the continuation of five projects, the establishment of six new projects and the provision of specialist advice and services.

Four new projects were undertaken under the "Innovative Traffic Monitoring Technology Program". The projects included the installation of a piezoelectric based weigh-in-motion/vehicle classifier system on Highway No. 11 just south of Saskatoon; the purchase and initial development of a capacitance mat based weigh-in-motion system; the initial development for a joint industry, federal government and provincial government project for the evaluation of low speed weigh-in-motion prototypes; and an assessment of incorporating a technology package into the proposed Estevan scale development.

Research Branch continued to monitor traffic accidents involving safety barriers and roadside obstructions to assess the performance of existing barrier systems and roadside appurtenances.

Other related projects were:

- performance of framed timber culverts
- statistical analysis of heavy truck accidents
- joint highway research program with the University of Saskatchewan
- research to develop an improved probabilistic basis for the evaluation of existing bridges (contracts monitored by Bridge Branch)
- value of information study (weigh-in-motion data)
- technology package specifications (Estevan scale)
- road profilometer research and development joint venture.

Specialist advice and services were provided on matters pertaining to traffic safety, roadway lighting, safety barriers, hydraulics and roadway geometrics.

Test Track

Test Track activity included continuation of the upgrading program, participation in a joint project with industry to test an AVI interrogator as well as participation with the University of Saskatchewan and Geotechnical and Materials Branch in a matrix soil suction experiment and completing a theoretical model assessment of the existing test structure.

Electronic prototype development and testing has proceeded slower than expected. Several unanticipated technical problems had to be overcome. At year end several of the major electronic boards were being reworked to incorporate new innovations. Accomplishments include the testing, modifying and installing of the telemetry system; raising the central gantry support, repairing the failed main bearing; installing the restraint system, installing a wheel traversing drive and installing a distance measuring wheel.

Technology Transfer

Branch staff participated in a number of activities to disseminate research information and to keep abreast of external research activity.

- organizing technical presentations on the heavy vehicle accident study and the Strategic Highway Research program and the Canadian Strategic Highway Research program
- preparing directly or supervising the preparation of reports by consultants on the following topics:
  - Crack reflection analysis of high float seal coat test sections CS 16-20, 1-14, 17-05, 9-03, 3-06 and 5-03
  - Strip analysis high float seal test sections
  - A report on the preliminary stress modelling of the test track

- Softening asphalt for cold mix production Phase IV
- Performance of a thin pavement under repetitive loading
- Crack reflection analysis of variable overlay thickness test section CS 1-10
- Determination of moisture-density retention of wet zone-dry zone study: Pavement B Structures
- The safety experience of large trucks in Saskatchewan (draft)
- Framed Timber Culvert Study
- Construction reports for weigh-in-motion/classifier systems on Highway No. 1 west of Regina and Highway No. 11 south of Saskatoon.
- An evaluation of a Thermal Conductivity Sensor for the Measurement of Soil Matrix Suction
- Site visit report on the construction of a lime modified subgrade on Highways No. 339-01 and 334-02.

- preparing a technical bulletin on the Summary and Analysis of Results obtained from the Seal Coat Test Sections.
- providing departmental representation to and participating in research projects of the Council on Highway and Transportation Research and Development and the Canadian-Strategic Highway Research Program.
- providing the Roads and Transportation Association of Canada representation to the American Association of State Highway and Transportation Officials Select Committee on Research.
- participating in conferences, technical societies, Roads and Transportation Association of Canada committees and the Government Specification Board Committee on Road Materials. Branch staff participated in the following:
  - Paper for WACHO conference "Rutting Analysis for Full Depth Asphalt Mix"
  - Paper jointly prepared for the New Zealand Roading Symposium, "Indoor Pavement Test Tracks — Incorporating Advanced Technology".
  - Paper jointly prepared for the Third IRF Middle East Regional Meeting "Recent Development In Full Scale Indoor Test Track Technology in Canada and New Zealand".
  - Paper jointly prepared for the Canadian Transportation Research Forum "Safety Experience of Large Trucks — an Analysis of Sample Size Requirements".
  - Presentation to the Western Canada Traffic Association "Safety Experience of Large Trucks in Western Canada".

Special Activities

The branch hosted and supervised a visiting researcher from the Chongqing Highway Research Institute in the People's Republic of China. The visiting researcher is studying departmental methods of materials and research. Hosting was provided by the Canada/China Human Development Training Program.

Branch staff participated in the finalization of the Rural Transportation Development Planning Study sponsored jointly by Transport Canada and our department.

Planning Support Branch

The mission of Planning Support Branch is to facilitate the provision and maintenance of an effective and efficient transportation system by:

- the planning and facilitating of programs for northern transportation and special transportation issues.
- the provision of interdepartmental, and intergovernmental liaison and coordination of statutory and regulatory matters affecting the department.
- the provision of administrative support services for the Division in budgeting control, drafting, library services and clerical services.

The main activities which involved Planning Support Branch during the course of the year were:

Northern Transportation

The Cigar Lake Mine Road Study was completed. This study examined alternate locations and truck weight regulations in the provision of an all-weather road into the proposed uranium mine at Cigar Lake. The mine site is located approximately 40 kilometres west of the existing mine at Collins Bay. The results of this study will be used as a basis to analyse the corporation Environmental Impact Statement when it is completed.

A study was conducted on the 1987 barge operations on Lake Athabasca with particular reference to the freight haul into the Saskatchewan communities on the lake. In 1987, there was 10 939 tonnes hauled on the system involving Saskatchewan communities. This compares to 6 993 tonnes and 7 008 tonnes respectively for 1986 and 1985. The increase in 1987 was primarily due to the haul of construction material for the SPC electrical transmission line in the region.

Discussions were held with Transport Canada to develop a contribution agreement which would utilize Coast Guard funds for transportation infrastructure in the Lake Athabasca region. Project options were developed and presented to Transport Canada for consideration. The agreement is expected to be signed in 1988.

Since Transport Canada has indicated that they wish to divest themselves of ownership of the Uranium City aerodrome, discussions have been continuing related to the future status and ownership. The present agreement between Transport Canada and Saskatchewan Highways and Transportation expires on August 31, 1988.

A study was completed on the determination of navigational aids required for northern community airstrips. Several communities were identified as having a need for non-directional beacons. These communities are being recognized in the development of the capital program for future years.

A feasibility study was completed to determine the applicability of utilizing large all-terrain vehicles in the transportation of freight to northern communities where the construction of all-weather roads would be prohibitively expensive.

A seminar was presented to senior departmental staff on current economic and transportation activities in northern Saskatchewan.

The Northern Passenger and Commodity Movement Study was completed during the year. Basically the study examined passenger movements by automobile, bus and air, and commodity movements by truck, air, and water into various northern communities.

Interdepartmental Liaison

Liaison was maintained with federal and provincial agencies on issues affecting transportation.

Co-ordination was maintained with the Department of Rural Development on the disposition of abandoned railway rights-of-way.

In many cases, title was obtained for land to be used for public highway rights-of-way and related public improvements.

The branch co-ordinated departmental interests in provincial crown lands which have been selected for Treaty Indian land entitlements. In particular the interests related to public highways and gravel sources were examined and provided to the Saskatchewan Indian and Native Affairs Secretariat.

Provincial airport planning was co-ordinated with Transport Canada. Semi-annual meetings were held with departmental and federal officials to exchange current program plans affecting Saskatchewan.

Contact was also made with other agencies concerning traffic generated by parks and northern economic development initiatives.

Statutes and Regulations

The branch has the responsibility of co-ordinating proposed legislation, regulations and cabinet agenda items. During the year a new Railway Act was drafted. It should be introduced into legislation in 1988-89. The current railway act is outdated and would not respond to current conditions.

Amendments to The Engineering Profession Act were discussed with interested parties and the writing of drafting instructions for legislative amendments has been initiated.

A departmental working group chaired by the branch reviewed The Highways and Transportation Act and determined amendments that are required. Discussions will be held with the Department of Justice with the intent of proceeding with legislative amendments.

External Activities

During the year personnel from the branch attended the Roads and Transportation Association Conference and the Western Association of Canadian Highway Officials annual meeting and made presentations at these conferences.

Bridge Inspection during Annual Northern Tour.

Transportation Policy Branch

The mission of the branch is threefold:

- to formulate transportation policies for the purpose of developing improved transportation systems and services in support of the economic and social development of Saskatchewan.
- to provide information and expertise regarding extra-provincial legislation and regulations and intergovernmental transportation relations.
- to consult with and provide information and assistance to other government departments and agencies, to Saskatchewan communities and to transportation users and carriers.

During the 1987-88 fiscal year the branch maintained liaison with federal and the other provincial and private sector agencies dealing with transportation. The branch was involved in several major activities discussed below.

Air

The branch is responsible for policy areas intended to influence and improve the level and quality of commercial aviation services and infrastructure affecting Saskatchewan.

During 1987-88 branch staff were involved in the following major air policy activities:

- Reviewed proposals related to monitoring of the performance of the new National Transportation Act for air transportation services in Saskatchewan.
- Reviewed and responded in general terms to the federal government's new Airport Policy. This has included working with the Regina Chamber of Commerce and Saskatoon Board of Trade to develop positions on this policy.
- The Branch has been involved with Transport Canada and Saskatoon officials concerning the establishment of a local Economic Development Board for the Saskatoon Airport.
- Monitored and assessed commercial air carrier activities affecting Saskatchewan, and where necessary developed specific department and Government strategy. In particular this has included a major review of Canadian Airlines' services to Saskatchewan and ongoing monitoring of Time Air services and operations following their acquisition of NorcanAir.
- Transborder Air Services continue to be of major concern to Saskatchewan and through 1987/88 a number of initiatives were undertaken in efforts to improve service, including:
  - Meetings with officials of Air Canada and Canadian Airlines;
  - Meeting with Time Air and with special interest groups, like the Saskatchewan Outfitters Association;
  - Ongoing involvement in the Saskatchewan Transborder Provincial Working Group which involves representation from a number of public and private sector interest groups. The Working Group was created following the discontinuance of Frontier Airlines Service from the United States to Saskatchewan;
  - The branch was represented on a Transport Canada study on Improved Transborder Air Services between Manitoba, Saskatchewan and North Dakota
- Monitored and assessed all Notices, Decisions and Orders of the Air Transport Committee and as of January 1, 1988 the new National Transportation Agency with respect to commercial air carrier activity in Saskatchewan.
- Participated in the development of Transport Canada infrastructure in Saskatchewan through regular involvement in Saskatchewan air facility meetings. The Department is also represented on the Saskatoon Airport Consultative Committee.
- Monitored and provided input into the Canadian Airspace Review.

- The branch is represented on the Roads and Transportation Association of Canada Aviation Management Committee and is an associate member of the Air Transportation Association of Canada with representation on a number of committees.
- The department is currently reviewing its airport charges policy, (landing fees, concession charge, land leases, fees, etc.) at provincially operated airports with the development of a new policy.
- Transport Canada constructed a new air terminal building (flight service station) in La Ronge in 1987. Under an operational agreement with Transport Canada the department will operate and maintain the new terminal building. The branch was actively involved in the development of rental rates for the facility.

Rail

The branch is responsible for policy areas intended to influence and improve the level and quality of rail service and infrastructure affecting Saskatchewan.

During 1987-88 branch staff were involved in the following major rail policy activities:

- Assessed proposals related to reviews of the performance of the new National Transportation Act on rail transportation services affecting Saskatchewan.
- Monitored and reviewed rail carrier activities affecting Saskatchewan and where necessary developed specific department and Government strategy. Responses were prepared on railway strikes and lockouts.
- Monitored and assessed all Notices, Decisions and Orders of the Rail Transport Committee and as of January 1, 1988 the National Transportation Agency respecting rail carrier activity in Saskatchewan.
- Prepared the province's submission to the National Transportation Agency concerning the railways' application for lower grain freight rates.
- Prepared a report on the performance of the grain handling and transportation system.
- Held discussions with the western provinces and the National Transportation Agency concerning monitoring the performance of the new National Transportation Act.
- Managed a consulting study concerning the impacts of variable rates on grain delivery patterns.
- Jointly developed a rail rationalization proposal with the other three western provinces for discussion with the eastern provinces, the federal government and the Senior Grain Transportation Committee.
- Prepared the province's submission on Transport Canada's cost recovery policy.
- Reviewed and analyzed the National Transportation Act regulations.
- Prepared a submission to the federal Minister of Transport on adding products to the Western Grain Transportation Act.
- Prepared strategy for protecting minimum compensatory rates on canola products moving east of Thunder Bay including participation in the Federal Court of Appeal proceedings.
- Prepared the province's submission to the Railway Transport Committee concerning the reconsideration of application to abandon the Colony subdivision. Provided input into the submission concerning the Kisbey, Neudorf, Altawan and Erwood Subdivisions.
- The following tables provide information on the current status of Saskatchewan branch lines.

Rail Line Abandonment Applications Currently Active under Section 160 of the National Transportation Act, 1987

Railway/ Subdivision	Between Points	Track Miles	Status
CN Central Butte	Moose Jaw Jct to Mawer (M. 39.37) (M. 85.00)	45.63	To be reconsidered by 1990
CN Chelan	Reserve to Weekes (M. 0.00) (M. 12.87)	12.87	To be reconsidered in 1988
CN Corning	Peebles to Corning (M. 0.00) (M. 15.00)	15.00	To be reconsidered by 1989
CN Cudworth	St. Louis (M. 84.60) (M. 86.36)	1.76	To be reconsidered in 1988
CN Erwood	Baden to Hudson Bay (M. 50.85) (M. 100.00)	49.15	To be reconsidered in 1988
CP Kisbey	Griffin to Weyburn (M. 43.60) (M. 60.90)	17.30	To be reconsidered by 1990
CP Neudorf	Rocanville to Esterhazy (M. 53.50) (M. 82.00)	28.50	To be reconsidered by 1988
CN Porter	Oban Junction to Cando (M. 0.00) (M. 18.00)	18.00	To be reconsidered by 1989
CN Preeceville	Preeceville to Kelvington (M. 72.73) (M. 113.58)	40.85	To be reconsidered by 1990
	CN Total Miles	**183.26**	
	CP Total Miles	**45.80**	

C.T.C. Abandonment Orders Issued Under the Railway Act Abandonment Date Not Yet Effective

Railway/ Subdivision	Between Points	Track Miles	Status
CN Acadia Valley	Eyre Jct to Acadia Valley (M. 0.00) (M.23.67)	23.67	Ordered abandoned December 31, 1988 contingent upon the establishment of an alternative grain handling service.
CN Avonlea	Parry to Avonlea (M. 29.1) (M.51.45)	21.64	Ordered abandoned November 28, 1988
CP Colony	Rockglen to Killdeer (M. 0.00) (M. 24.60)	24.60	Ordered abandoned to the earlier of 30 days after closure of Saskatchewan Wheat Pool elevator at Killdeer or December 31, 1988
	CN Total Miles	**45.31**	
	CP Total Miles	**24.60**	

Physical Distribution and Transportation Advisory Program

This program provides a center of expertise and up-to-date information regarding goods distribution into, within and out of Saskatchewan. The objective is to reduce costs to Saskatchewan shippers, receivers and carriers. The goals of the program are to assist Saskatchewan business in maximizing their efficiency and profitability and to enhance the development of new domestic, export and import markets through utilization of physical distribution management techniques.

During 1987-88 branch staff were involved in the following major physical distribution activities:

- On-going development, monitoring and networking with other government and private sector people to support our center of expertise, information and human resource base on physical distribution management in Saskatchewan.
- Reviewed the federal government's policy and position on conference and non-conference shipping lines' activities and problems. Prepared the Saskatchewan response.
- Maintained active memberships in national and international associations.
  - Member, Chartered Institute of Transport — Prairie and N.W.T. Section — Secretary/Treasurer.
  - Electronic Data Interchange Council of Canada
  - Canadian Association of Physical Distribution Management
  - Canadian International Freight Forwarders Association
  - International Cargo Handling Co-ordinating Association.
- Provided consulting services to other departments, shippers, receivers and carriers on physical distribution matters.
- Promoting the establishment of a Shipper/Carriers Council to discuss issues of common concern and to alleviate problems.
- Managed consulting studies on the demand for and supply of containers for transporting goods into and out of Saskatchewan.
- Co-ordinated activities concerning the feasibility of developing an intermodal container facility in Saskatchewan.
- Resource person/speaker at meetings, conferences promoting physical distribution management.

Capital Program Planning Branch

The mission of the branch is:

- to identify and assess present and future demands for provincial highways, provincial and municipal airports, urban transportation assistance and rural transit assistance in Saskatchewan.
- to develop, monitor and evaluate strategic and short-range responses to these demands in terms of capital programs.

Major Activities

Capital Programming

The proposed five-year construction program was reviewed and developed for the period 1988 to 1992. The recommended 1988-89 capital program and budget were compiled.

Development of the capital program and budget involves a great deal of background work, consultation and analyses. These activities involved, as in previous years, extensive liaison with Operations Division and its three branches and six districts, and with most branches of Engineering Division.

A special submission was made to the Treasury Board describing the pavement rehabilitation needs and requesting additional funding. The Treasury Board and Cabinet approved a $30 million three-year (1988-89 to 1990-91) enhancement program for pavement rehabilitation.

The Federal-Provincial Yellowhead Highway Improvement Program

The Capital Program Planning Branch developed the program and schedule of projects for the Canada-Saskatchewan Yellowhead Highway Improvement Agreement signed in June 1987. The agreement provides for $22 million, cost-shared 50-50, over the three-year period 1987-88 to 1989-90, with the stipulation that all projects would have to be completed by the end of 1990-91.

The major projects to be funded under the agreement are: twinning from Saskatoon to Langham, twinning of Circle Drive in Saskatoon from 8th Street to College Drive, reconstruction of the railway underpasses at Borden and Lloydminster, twinning in Lloydminster in the vicinity of the underpass, and extension of York Road in Yorkton.

In 1987, similar agreements for improvements to the Yellowhead Highway were signed between Canada and British Columbia ($36 million), Alberta ($22 million) and Manitoba ($20 million).

Pavement Management Information System (PMIS)

The pavement management information system being developed by the department will evaluate reconstruction as well as rehabilitation strategies for the highway system. This branch is co-chairing the steering committee with Surfacing Branch and is actively involved on the working committee. Areas of PMIS in which the branch is most actively involved are reconstruction program simulation and road user costs.

During 1987-88, a major portion of the detailed design was undertaken, consisting of the various pavement deterioration models, data translation from the corporate data base, road user cost module and, a model to correlate riding comfort index with the intermotion roughness index. The P.M.I.S. is expected to be completed in 1988.

Programming and Planning Studies

The major studies conducted during 1987-88 were:

- further review of the Rural Transportation Assistance Policy (RTAP),
- an overview of urban assistance policies and programs of Alberta and Manitoba,
- location of Highway No. 41 at Melfort (assisted Prince Albert District),
- review of the Pavement-C policy (through an inter-branch committee).

Urban Transportation Planning

Professional engineering input was provided on a wide range of urban transportation issues confronting the department. Technical assistance was provided on cost shared studies such as the Highway 17 Functional Study in Lloydminster and the Moose Jaw Transportation Update Study.

Grid Road Takeover Policy

Since May 1, 1984 the department has implemented a Grid Road Takeover Policy which stipulates minimum criteria that must be met before a rural municipal road would be considered by the department for inclusion into the provincial highway system. During 1987-88, nineteen grid road takeover requests were evaluated with respect to this policy.

Inventories and Statistics

The following inventories for which the branch is responsible were updated: highway inventory, inventory of primary and secondary community airports and highway-railway grade crossing inventory.

The branch also compiled the annual highway length and expenditure statistics for Statistics Canada and the Roads and Transportation Association of Canada.

Professional Publications

The branch staff were involved as principal or co-authors in the following publications during 1987-88:

1. Hassan, M. U. and Petrovitch, N. "An Overview of the Organization of Provincial Departments of Highways and Transportation". Proceedings of the Canadian Transportation Research Forum Conference, 1987.
2. Hassan, M. U. "Employment Implications of Highway Investment". Paper presented at the Canadian Transportation Research Forum Conference, 1987.
3. Cox, J. B., Hassan, M. U. et al. "An Integrated Approach to the Development of Pavement Management System for Saskatchewan". Proceedings of the Second North American Conference on Managing Pavements, Toronto, November 1987.
4. Wyatt, J. J. and Hassan, M. U. "A Simplified Low Cost Approach to Province-Wide Travel Demand Forecasting". Proceedings of the Roads and Transportation Association of Canada Conference, 1987.

Technical and Specialist Services

A proportion of staff resources was utilized to provide specialist advice and assistance to senior management, other units of the department and extra-department units on matters related to highway planning, location and design standards, airport planning and classification, urban transportation planning, and policies related to capital programs. Examples of such activities include:

- preparation of briefs, letters and background papers pertaining to the Saskatchewan Association of Rural Municipalities, Saskatchewan Urban Municipalities Association, Yellowhead Highway Association, Saskatchewan Roadbuilders, urban and rural municipalities, members of the public, and federal and provincial governments;
- representation on intra and extra-department committees, such as the "Federal/Provincial/Territorial Committee for Disabled Travellers" which is developing ways to improve road transportation for the disabled.

Transportation Systems Branch

The mission of the branch is to develop and recommend policies, administer programs, and provide specialized technical assistance leading to improvements in cost effectiveness, safety and adequacy of surface transportation systems.

Road Transportation Section

Bulk Commodity and Timber Transportation Policy

The Road Section staff negotiated several new agreements with shippers regarding industrial truck hauls pursuant to the terms and conditions of these policies. These included major agreements with Peterson Sand and Gravel, Inland Cement and Provincial Forest Products as well as a number of new letter agreements covering road fees and vehicle configurations pursuant to other existing agreements. The staff continued to administer all of the industrial truck haul agreements.

Overlength Vehicle Program

Major revisions were made to the Overlength Vehicle Policy to reflect changes to weights and dimensions regulations recommended by the RTAC Study. Increased gross vehicle weights for Twin 45's and Rocky Mountain Doubles to between 60 500 kg and 62 500 kg depending on hitching device, addition of the A train with stabilizer arm, and adoption of new C dolly convertor standards were among the changes to the program. The branch began negotiations with carriers regarding the changes and by the end of the year new agreements had been signed with Federated Co-operatives and Canada Safeway.

Petrofka Bridge Traffic Control System

A new automated traffic control system was developed and installed at the Petrofka Bridge on Highway No. 12 this year. The project was undertaken jointly with Trimac Transportation Services Ltd. and Key Lake Mining Corporation. The system is designed to allow overweight trucks to cross while no other traffic is using the bridge. Drivers operating the overweight trucks are able to activate a set of stop lights from the truck's cab by means of a radio control unit and cross the bridge straddling centre line while other traffic remains stopped. The system has allowed Key Lake to reduce transportation costs by moving bulk products to their mine at higher gross weights pursuant to the Bulk Haul Program without making costly repairs to the bridge.

Interim Weight and Dimension Adjustment Program

The Interim Weight and Dimension Adjustment Program Policy was implemented in August enabling commerical carriers to obtain permits to operate eight axle combination trailer units at weights of up to 60.5 tonnes. In addition to the "B" train configuration recommended by RTAC, the policy enables carriers to use existing "A" or "C" train equipment with approved hitching hardware to improve vehicle stability. By the end of 1987, fifteen companies were participating in the program and more than thirty permits had been issued including twenty for the new "B" train.

Aggregate Transportation Policy

Staff have entered into several agreements with R.M.'s enabling them to obtain permits for crossing provincial highways while hauling gravel at weights in excess of legal limits. The program is ongoing and will remain accessible to all R.M.'s.

Interim "C" Dolly Specifications

Staff of the Road Transportation Section in conjunction with industry officials prepared a specification to control the design and performance characteristics of dual drawbar "C" dollies.

Corning Branch Line Study

Staff completed a road cost study to determine the impact on the highway system of several rail service options including complete abandonment and several options for an off track elevator. A final report was prepared for an

evaluation committee comprised of the railway and elevator companies, local retention committee, Canadian Transport Commission and the department. Study findings showed that in terms of road and trucking costs, the impact of abandonment and an off track elevator with a haul to Stoughton were approximately equivalent at $450,000 per year.

High Cost Grain Dependent Branch Line Study

In the summer of 1987 the Senior Grain Transportation Committee (SGTC) sponsored a study of six high cost grain dependent branch lines in western Canada. Dr. Jim Leibfried was given a mandate by the SGTC to meet with industry and producer representatives, evaluate the costs associated with various rail service options, and report back the results to the SGTC. Branch staff were asked to provide road costs for the Preeceville, Dunelm, and Central Butte Subdivisions in Saskatchewan. Results varied widely depending on subdivision and options analysed, but in general had a significant impact on the findings presented by Dr. Leibfried.

Federal Branch Line Abandonment Study

Branch staff are representing the department on a study initiated by Transport Canada in April, 1987 to develop a methodology for measuring the impact of branch line abandonment on provincial roads in Saskatchewan. This has involved participating on a study team as well as reviewing work prepared by the consultant commissioned by Transport Canada for this study. The study is expected to be completed by September, 1988.

Transportation Technology Development Program

The Road Transportation Section administered the Transportation Technology Development Program which is designed to encourage the private sector to pursue new technologies for bulk hauls. These technologies will improve productivity and safety while increasing road life.

The following projects were undertaken pursuant to this policy:

Equipment Testing and Evaluation

The Road Section, in conjunction with Trimac Transportation Services and the University of Michigan Transportation Research Institute is continuing to monitor and evaluate a demonstration project to test the feasibility of using a controlled steering style "B" dolly in Saskatchewan commercial truck transport.

Staggered Axle Suspension Asphalt Impact Study

Road Transportation Section staff in conjunction with officials from Westcan Transport, Alberta Research Council and the Alberta Department of Highways and Transportation conducted a study to measure pavement responses to the loading imposed by the experimental nine axle "B" train equipped with offset axles. Surface deflections and interfacial tensile strains were measured on an instrumented test section at Three Hills, Alberta by the Alberta Research Council (ARC). Results of the ARC tests suggest the stub axle has potential and further work is planned later in 1988 and in 1989 at a similar test site planned for Saskatchewan.

Air Suspension Instrumentation

Officials from Weyerhaeuser Canada Ltd. and the Canadian Center for Advanced Instrumentation in conjunction with staff from the Road Transportation Section instrumented an air suspension of a logging trailer. The purpose of the project was to determine the load distribution characteristics of vehicles equipped with air ride suspension.

Rear Trailer Stabilizer Arm

Staff, in conjunction with officials from Turner Transport and Advance Engineered Products, designed and installed a new style rear trailer stabilizer arm on a petroleum tanker designed to improve stability of the rear trailer and provide roll-coupling between the front and rear trailers of the vehicle.

Staggered Axle Logging Trailer

The Road Section in cooperation with Lorne's Welding and Fabricating and MacMillan Bloedel designed, constructed and put into service a quad axle logging trailer for hauling eight foot wood in the Hudson Bay area. The vehicle is currently being monitored and evaluated by staff of the Road Section.

Rail Section

Regina Rail Relocation

A decision was handed down by the CTC late in 1987 generally in favour of the City of Regina. Some revision was required to the transportation plan for which the Rail Section provided input.

Burden Study

Activity continued by the Rail Section in acquiring and developing the data required to assess the spread between rail freight rate charged and the costs of transporting Saskatchewan products.

Traffic data from Saskatchewan shippers of six major commodities have been obtained and are being converted to railway costs.

For comparative purposes, data from the federal government on Saskatchewan traffic movements, including railway revenues generated, have been obtained and analysed for the same six major commodity groups.

Road/Railer Demonstration Project

The Rail Section is continuing its activity in promoting a road/railer demonstration project. The road/rail concept involves the use of a hybrid hi-rail tractor capable of travelling on existing roads and moving onto branch lines for spotting and picking up grain cars at elevator points along the line for interchange with a main line carrier. The purpose of the demonstration project is to assess the feasibility of this option of moving grain off low volume branch lines. Studies have been commissioned to design the road/rail vehicle and a business plan to implement the demonstration project.

Railway Costing Review

Under the Western Grain Transportation Act the federal government annually determines the freight rates for moving grain. The Section made submissions on rail costing methodologies to this determination including a submission on the railway cost of capital for the movement of grain. The arguments put forward by the Rail Section resulted in a reduction of producer freight costs by some $26 million.

Saskatchewan Railway Act

A new Saskatchewan Railway Act replacing the current 1906 Saskatchewan Railway Act is being drafted by the Rail Section so that it is more consistent with new federal legislation and more in line with current provincial rail transportation requirements. In addition, regulations are being developed pursuant to the proposed legislation.

Federal Railway Safety Act — Bill C-105

The proposed Federal Safety Act is designed to streamline railway safety regulations. However, it goes beyond issues relating to railway safety. The proposed new Act reduces federal cost apportionment of grade separations from 80% to 50% and assesses the residual amount based on a benefit formula. Road authorities and municipalities are excluded from regulation and rule making. The new Act repeals certain sections of the Railway Act which provide certain rights to adjacent landowners, i.e., erecting and maintaining right of way fences, construction of private farm crossings and right of way weed control.

The Rail Section filed a submission with the federal Railway Standing Committee regarding these issues. The provincial position received wide acclaim and support from the other provinces.

Branch Line Abandonment

Abandonment applications were filed by the railways for portions of the Kisbey, Altawan and Neudorf Subdivisions of CP and the Erwood Subdivision of CN.

The Rail Section responded in a submission to the CTC pointing out that the abandonment of these lines would interfere with the mileage related grain rate schedule and would unfairly raise freight rates to grain shippers on adjoining branch lines. Until the Western Grain Transportation Act is revised to alleviate this anomaly, the abandonments have been stayed.

Branch Line Rehabilitation Program

The federal government made a commitment in 1977 to upgrade all grain dependent branch lines in the permanent network to a standard capable of handling grain hopper cars. The program is to conclude on March 31, 1990. Approximately $150 million remains in the program.

Proposals to transfer the remaining funds to producers who are affected by branch line abandonment have surfaced through the Senior Grain Transportation Committee.

Producers in general oppose this proposal and are expressing support for completion of the rehabilitation program. The Rail Section continues to monitor the activities in this area.

General Consultative Services

The Rail Section continues to provide information and consultative services by responding to new and revised federal legislation and queries from provincial and federal groups, industry and the general public.

Regulation and Traffic Safety Division

The mandate of the division is to promote legal, safe and economic operations concerning commercial and private vehicles within the province. This mandate is met within two working units, namely the Transport Services Branch and the Highway Traffic Board Services Branch.

The division performs support functions for the Highway Traffic Board by developing policy options for possible implementation, administering the daily functioning of the Board, and by requesting or implementing Board decisions.

The Division is also responsible for the development, implementation and delivery of enforcement, safety and transport regulation initiatives for the department. Major revisions to the economic regulation structure continued as federal legislation mandated the Sskatchewan "reverse onus" application procedures for all provinces. As a result, the Division saw an increase in applications and was involved in national efforts to standardize procedures. This relaxation in entry requirements also intensified efforts to finalize National Safety Code standards designed to ensure highway safety does not deteriorate as a result of the increased competition flowing from re-regulation.

Nine valued members of the Division staff retired this year. Fortunately, the benefits of their years of service have been obtained for incorporation in the standards being developed under the National Safety Code and the All Terrain Vehicles Act.

W. R. McLaren
Executive Director
Regulation and Traffic Safety Division

Grant Hodgins
Minister
Highways and Transportation

J. R. Sutherland
Deputy Minister

Bill McLaren
Regulation and Traffic Safety Division

Terry Pollock
Transport Services Branch

VACANT
Highway Traffic Board Services Branch

Highway Traffic Board Services Branch

The Highway Traffic Board Services Branch is responsible for legislation and regulations co-ordination, processing applications for restricted licences, and administrative duties for the Regulation and Traffic Safety Division.

A major activity in 1987-88 was the development of legislation respecting all terrain vehicles. The major purposes of the new law are to promote the safe and proper operation of ATV's.

The branch also co-ordinates implementation of regulations under **The Highway Traffic Act** and **The Motor Carrier Act.** A new motor vehicle registration and driver licence fee schedule came into effect on October 1, 1987.

In 1987-88, the branch continued to process applications for restricted licences under **The Vehicle Administration Act**. A total of 79 applications were heard by the Highway Traffic Board. Fifty licences were granted.

In 1987-88, the Highway Traffic Board heard three appeals to SGI decisions on suspension of drivers' licences.

The branch continued to process invoices received by the division and handled other administrative matters such as reception of mail, office equipment inventory, and processing expense statements for members of the Highway Traffic Board.

Transport Services Branch

The mission of this branch is to facilitate the delivery of adequate, safe and efficient motor transport services for the movement of freight and passengers. This is accomplished through two working units, the Transport Regulation Section and the Transport Compliance Section. In fulfilling its mandate, the branch has the following objectives:

- ensuring that the necessary motor carrier services are available so that the reasonable economic and social requirements of most people are satisfied through accessibility of service, frequency of service, reliability of service and quality of service
- promoting efficient transport services that encourage the optimal allocation of transport resources
- promoting equitable transport services that allows for the delivery throughout the province of similar levels of service at similar prices
- promoting the development of a safe transport system that operates with minimal loss of life, injury, damage to property, and minimum social costs through safely operated vehicles, properly maintained vehicles and protection from dangerous commodities.

This branch oversees the development of policy and recommendations for the board with respect to the degree of regulation that is appropriate for the motor carrier industry.

The branch is responsible for the development and delivery of programs that process operating authority applications and maintain carrier records; provide carriers with a 24-hour permit service; review carrier fitness on an ongoing basis; establish policy and provide information on vehicle registration requirements; develop conditions of carriage and rate regulations; answer shipper, carrier and public enquiries; and provide administrative support for the board.

The branch is also responsible for promoting compliance with the laws and regulations governing the movement of goods and people on provincial roads. To this end, the Highway Transport Patrol and Investigation Units' responsibilities include vehicle weight and dimension, operating authorities, registration, and vehicle and driver safety. There is also major input into the development of statutes and regulations from this section.

The Transport Service Branch will be reorganized in 1988-89 to improve delivery of programs and services.

Transport Regulation Section

The Saskatchewan motor carrier industry is subject to economic and non-economic regulations designed to ensure adequate freight and passenger services for the well-being of Saskatchewan residents. The main program areas include:

- monitoring and prescribing service levels
- controlling entry into the market with respect to issuing operating authorities and permits
- classifying motor vehicles and setting appropriate registration fees
- analyzing carrier financial and operating costs and recommending changes in the rate structures
- establishing the conditions of carriage under which carriers are allowed to operate
- reviewing carrier compliance records to ensure acceptable operating standards are maintained.
- working through CCMTA to implement a National Safety Code and other nationally uniform legislation.

Operating Authorities

Operating authority administration involves processing motor carrier applications for new authorities, providing administrative support to the public hearing process, monitoring carriers for fitness, and instituting disciplinary action. As well, a consumer relations function provides information services regarding the responsibilities and services provided by for-hire carriers.

While the ease of entry process was introduced in 1986, the Board still continued to receive a substantial number of applications.

Prior to January 1, 1988, Saskatchewan applied a reverse onus test in processing applications for operating authority for Saskatchewan residents and, on a reciprocal basis, for United States residents.

In January, 1988, in keeping with new federal legislation, **The Motor Vehicle Transport Act**, changes were instituted to apply the reverse onus procedures and process to all companies or individuals applying for an extra-provincial operating authority. The reverse onus public interest test shifts the burden of proving the validity of an application from the applicant to the objector. The process places more emphasis on reviewing an applicant's fitness. A total of 709 applications were processed.

These changes have provided opportunities for new carriers to obtain operating authority and for existing carriers to expand their operations while reinforcing public safety and carrier fitness.

Fitness Review

One of the policies of the Highway Traffic Board is to promote compliance with all of the transport laws and regulations by those involved in the motor carrier industry.

A central registry of all transport law violations, along with a recording of the violators is maintained, and continuously reviewed. In accordance with predetermined levels, registration and/or authority holders are subject to action in the form of warning letters and counselling sessions.

During the past year, letters were forwarded to 42 carriers providing a brief description of the Compliance Review Program and procedures. The letter also requested that the carrier provide operational data to ensure records were correct. Thirteen carriers received letters warning of the need to improve compliance levels. These levels provided carriers with information on convictions and an opportunity for the carrier to voluntarily improve its level of compliance.

Eight carriers continuing to incur convictions after previous warnings were requested to meet with the Compliance Review Committee.

Carriers making new applications for authority had their records under the Compliance Review Program reviewed. Where warning letters had been issued, the carrier was required to discuss the compliance record with the Board and develop proposals for improvement before consideration would be given to granting the authority.

Vehicle Registrations and Permits

The vehicle registration unit is responsible for meeting the needs of approximately 850,000 vehicles requiring registration in Saskatchewan. This includes establishing and monitoring the allowed uses and associated fees of various registration classifications. In addition, this unit is responsible for developing and maintaining reciprocity agreements, national registration standards and registration delivery systems through Saskatchewan Government Insurance.

Number of Vehicles

Description	Registered
Public Service	2,303
Public Service — Rural General Merchandise	210
Commercial Vehicle C	18,031
Commercial Vehicle D	29,340
Farm Truck	168,386
Private Vehicle	510,546
Private Trailer	87,839
Commercial Trailer	12,879
Passenger PSV Bus	182
Passenger City Bus	404
Passenger School Bus	3,356
Taxi	604
Motor Toboggan	7,371
Licensed Auto Dealer	3,783
Licensed Trailer Dealer	87
Federal Government	2,076
Total	847,397

The Driver and Vehicle Registration Fee Regulations were amended effective October 1, 1987. The new regulations simplified and made more equitable the assessment of fees for drivers and vehicles utilizing Saskatchewan's road system.

Central Permit Office

A Central Permit Operation has continued to service the motor carrier industry on a round-the-clock basis. Permit authorizations for operating authorities, fuel tax, vehicle registrations, and weight and dimension authorities are provided.

The Central Permit Office unit commenced operation in 1983 and has since issued 259,842 permits generating $12,637,643 revenue.

Year	Number Of Permits	Permit Revenue
1983	42,617	$ 1,946,298
1984	55,162	2,420,341
1985	54,956	2,679,605
1986	51,141	2,572,190
1987	55,966	3,019,209
Total	259,842	$12,637,643

Board Secretariat

This unit provides the administrative secretariat support for the Motor Carrier Committee of the Highway Traffic Board. The Secretary of the Highway Traffic Board assists applicants by counselling them on hearing procedures, by encouraging pre-hearing meetings, by scheduling hearings both within Saskatchewan and in co-operation with other provinces' transport board for the convenience of parties to the hearing.

Essentially, the board makes every attempt to expedite the application process. The board secretariat records all directives of the board, prepares board orders, minutes, and issues and maintains the operating authority certificate system. In addition to scheduling public hearings relating to applications or policy issues and/or changes, the secretary arranges for fitness and show cause proceedings and hearings.

Conditions of Carriage, Rates and Carrier Studies

This unit develops, co-ordinates and evaluates research into motor carrier operations, and proposals regarding conditions of carriage, rates and service standards. In 1987-88 major studies included:

- a Saskatchewan position paper on the National Safety Code
- an analysis of detachment activity
- an expenditure forecast for implementation of the N.S.C.
- development of a bus expense index

Transportation of Dangerous Goods

The unit has trained and designated enforcement inspectors within the R.C.M.P., Municipal Police Departments and the Transport Compliance Section to enforce the Dangerous Goods Transportation Act and Regulations on highways in Saskatchewan.

A brochure on "Dangerous Goods and the Farming Community" has been distributed as part of the Public Awareness Program. This program also included the unit's participation in various community gatherings where the Regulations and their application were explained to farmers, industry and the general public.

The unit is providing a consulting service for regulatory inquiries and assistance. There has been a high level of inquiries from enforcement personnel, industry, other government departments as well as the general public.

The unit has actively participated in the training of emergency response personnel to enhance their efficiency in responding to dangerous incidents.

Transport Compliance Section

This Section is composed of Saskatchewan Highway Transport Patrol and Transport Investigation Units who police and serve the road transportation industry.

The mandate of this law enforcement group is to promote compliance with rules which protect highways and the people who use them and to govern the movement of vehicles, goods and passengers. Primarily, officers interface with the bus/truck industry, but they have the authority to promote highway safety for all vehicles by taking action on flagrant violations when encountered.

For organizational purposes, the province is divided into two regions. Uniformed staff are employed to patrol the highways, and to man 14 permanent weigh scales. These activities are conducted around the clock.

Investigative staff operate from the major centres. They conduct investigations into road transportation complaints and conduct audits on individual carriers. The primary consideration of both is the enforcement of laws and regulations covering weight and dimensions, economic regulation (operating authority and registration) plus vehicle and driver safety. While carrying out their duties, officers conducted 733 investigations, 227,799 inspections and 18,917 consultations with industry during the year.

This Section has been promoting compliance with Dangerous Goods Transportation laws on Saskatchewan highways. All officers are trained and certified as Dangerous Goods Inspectors for Saskatchewan. Their duties include inspection of drivers, vehicles, cargo, documentation and the display of safety marks.

Of the charges and written warnings issued, approximately 55% went to carriers and drivers based outside the province. This reflects the high level of trucking into and through Saskatchewan from other States and Provinces.

Recap of Charges and Written Warnings 1987/88

	1987/88
Economic Regulation	
Operating Authority	659
Registration	2,713
Total	3,372
Weight and Dimension	
Overweight	2,683
Overwidth	401
Overlength	144
Overheight	87
Other	403
Total	3,718
Vehicle and Driver Safety	
Dangerous Goods	197
Vehicle Offences	2,875
Driver Offences	2,531
Miscellaneous	323
Total	5,926

Summary of Violation Rates 1987/88

	Location of Inspections	Number of Inspections	Violation Rate
Economic Regulation	At Weigh Scale	23,210	9.0%
	On Patrol	13,771	14.1%
Weight and Dimension	At Weigh Scale	144,131	5.4%
	On Patrol	11,549	15.5%
Safety	At Weigh Scale	14,932	13.1%
	On Patrol	20,206	26.6%

Preparation for the introduction of Saskatchewan's Commercial Vehicle Safety Alliance (CVSA) inspection program took place through extensive staff training on air brakes. In future, Traffic Officers will conduct more detailed vehicle inspections at roadside in this international program to reduce accidents involving the bus/truck industry.

Support Services Division

The mission of the Support Services Division is to provide services essential to the overall efficient management and operation of the department.

Services are in the areas of:

- staffing
- personnel management and training
- financial management and control
- management and administrative systems
- computer services
- property acquisition
- property management

Organizationally, the division is structured on a functional basis with each of four branches. Human Resource, Management Services, Financial Services and Property Services providing the department with a specialized service.

Two events had a significant impact on the division in 1987.

The early retirement program was taken up by 251 employees in the department. This resulted in a substantial workload for the Human Resource Branch in terms of restaffing the backfill positions, classifications of backfill and new positions, and developing and delivering training programs for new and reassigned staff. Through their commendable efforts and dedication, the process was handled successfully and efficiently by the staff of the Human Resource Branch, as witnessed by the minimal disruption to normal department program delivery.

The installation of twin mini-computers in head office, in accordance with the department's long range electronic technology plan, was a significant achievement by the Management Services Branch. The challenges and opportunities in office automation and more effective information management are constantly being addressed by the staff of this branch.

The Property Services Branch and Financial Services Branch continued to develop more effective information and delivery systems inspite of decreased staff complements.

Productivity improvement initiatives and accomplishments are being pursued and achieved on a continual basis. Details of specific services and accomplishments are provided in the following individual branch reports.

Paul Fitzel
Executive Director
Support Services Division

Grant Hodgins
Minister
Highways and Transportation

J. R. Sutherland
Deputy Minister

Paul Fitzel
Support Services Division

Steve Pillipow
Human Resource Branch

Art Lowey
Property Services Branch

Colleen Laing
Financial Services Branch

VACANT
Management Services Branch

Human Resource Branch

The mission of Human Resource Branch is:

- to provide assistance and guidance in areas of management of human resources, employee benefits, industrial safety, industrial relations, staffing, classification, staff training and development;
- to identify training needs and to develop and deliver programs to meet those needs; and
- to conduct manpower planning activities to ensure that the department will continue to have employees with the necessary skills to carry out its programs in an effective and efficient manner.

Major activities of the branch included:

- the Occupational Health and Safety Act was reviewed for operational compliance;
- the department's technical training program was reviewed in order to ensure it met current needs;
- branch participation in the negotiation of the Collective Agreement; and
- provided guidance and assistance to department managers in areas of the management of human resources, employee benefits, industrial safety, industrial relations, staffing, classification, staff training and development.

Labour Relations

Problem solving meetings were held with the Saskatchewan Government Employees Union on an on-going basis to resolve problems before they become formal grievances.

During the year 11 grievances were received, 6 of which have been resolved and the remaining 5 are in various stages of the grievance process. In addition, 8 grievances that were received in previous years were resolved during the year.

Staffing and Reclassification

Competitions were held to fill 127 public service and 41 labour service vacancies.

Forty-five employees requested a classification review of their jobs.

Training and Development

The department maintained its emphasis on employee training and development activities during the year. Courses included management, supervisory, technical, trade and equipment operation.

A total of 1,384 employees attended 117 courses with a combined total of 2,462 person days related to supervisory training and management development. Courses included:

- Managing Performance Problems
- Effective Writing
- Managing Stress
- Supervisory Skills
- Public Relations for Supervisors
- Decision Making
- Micro-computers to Manage
- Time Management
- Planning Systems in Government
- Basic Principles of Supervision
- Effective Meetings
- Industrial Relations
- Leadership Effectiveness Training
- Operational Planning for Managers
- Financial Management
- Setting Ojectives and Action Planning

A total of 1,207 training person days were devoted to support staff and technical training. Courses included:

- Effective Writing/Clerical
- Clerical Skills/Dealing with People
- Managing Stress/Clerical
- Administrative Skills for Secretaries
- Career Development for Support Staff
- Asphalt Lab Course
- Basic Soils Course
- Critical Vehicle Inspection Course
- Asphalt Mix Seminars

The equipment training section conducted 47 courses, attended by 418 employees, for a total of 448 training days. Courses included:

- Air Brakes
- M.D.O. Training
- Preventative Maintenance
- Welding
- Reclassification of Drivers License
- L10 Cummins Diesel Engine
- Basic Engine Tune-Up

Safety Section

A major objective of the department is to provide a safe working environment for all employees. The promotion of safety and training in the interest of injury and loss prevention, both on and off the job, forms an integral part of the Industrial Safety Program.

The following safety training was provided to employees.

- 366 person days First Aid and Cardiopulmonary Resuscitation training
- 347 person days of training in Defensive Driving and Professional Driving Courses
- 96 training days in safe handling and firing of explosives and 89 person days of Flag Person training
- courses were offered in Accident Causes, Occupational Health and Safety Committee training and Occupational Health and Safety Regulations
- 569 employees participated in work site safety meetings conducted by Safety staff members

442 regular public safety and work place inspections were carried out in order to reduce the possibility of injuries to the general public and department staff at those sites.

Safety Section staff members attended 13 Occupational Health Committee meetings at various locations in the province in order to assist committees in functioning more effectively, and to provide guidance on safety matters.

Management Services Branch

Management Services Branch is responsible to provide, assist in and promote the analysis, development, implementation, operation and maintenance of effective and efficient management information systems for the department. Some of the major activities are:

- developing and implementing management information systems to meet current and future needs
- providing data processing services
- training user branches and districts in the operation of data processing equipment, related procedures and applications development
- actively monitoring systems so that program managers at all levels have information available to review quantity, quality, time and cost status for each of their programs
- co-ordinating and conducting organizational reviews of the department units
- providing liaison with other departments and agencies of government in the carrying out of assigned duties.

The branch is continually involved in developing methods and procedures to assist managers in making better management decisions. Emphasis is placed on tasks having a high economic return on investment and improved productivity.

Major Activities

Phase I of the department's electronic technology strategy was implemented in head office. Two Wang VS7100 series computers were installed to provide users with the ability to accomplish a number of "information processing" tasks with a single terminal.

This includes:

- word processing
- electronic messaging throughout Head Office
- data entry
- 3270 access to Westbridge
- remote job entry
- spreadsheet and graphics capabilities
- programming with BASIC, COBOL, FORTRAN, SPEED II and PACE

Approximately 95 terminals and 35 personal computers are connected to the systems. This includes a remote communication link to the Regulation and Traffic Safety Division.

Electronic messaging to all districts was provided with the installation of Wang personal computers and implementation of Envoy through SaskTel.

Additional word processing and end user computing capabilities were also provided to each district with the purchase of Epson IBM compatible personal computers.

An electronic funds transfer system for the labour service payroll was implemented.

An On-line Central Permit System was developed to issue permits to truckers for over-weight and over-dimension loads. The system is run on the new computer system in head office and will be used by the Regulation and Traffic Safety Division, Maintenance Branch and Transportation Systems Branch.

A Shop Budgeting System was developed using data from the Equipment Management Information System (EMIS). This system will enable the shop administrative staff to manage their resources more effectively.

A communication link between Property Services Branch and the Department of Justice was established. The Chief Surveyors Plan Registration Index System was enhanced to include department data items so that department staff can retrieve information as they require it rather than waiting for the Chief Surveyor's office to fill their request.

Input data for Pavement Management Information System (PMIS) was provided by extracting relevant data from existing systems in the department. The sources of the data were the Highway Inventory System, Traffic Information, Traffic Accident Information System (TAIS), Riding Comfort Index System (RCI), Maintenance Management Information System (MMIS), Capital Budget Control System (CAPBUC) and other systems.

A model corporate data base was developed, and the feasibility of usefulness was evaluated.

The initial design of the structure of the corporate data base was developed in discussion with the PMIS project team. Data required for PMIS was loaded, and sample reports were developed using ADR's DATACOM database management system at Westbridge.

Property Services Branch

Property Services Branch is responsible for:

- the appraisal and negotiation of land for various department programs
- establishment of standard rates of compensation for land related damages negotiated by the Branch, other department units and right-of-way consultants
- arranging for the legal survey services required for department right of way and public improvement projects
- the registration of rights to property to meet the department's construction schedule and the Grid and Main Farm Access Road Program
- payment for various related services and for land where title has been secured
- the management of property rights under the jurisdiction of the department pertaining to public highways and public improvements.

Property Acquisition

- A total of 459 land purchase agreements and related contracts were successfully negotiated on 76 highway projects. Some of the major land acquisition projects were Highway No. 16 from Saskatoon north-west, Highway No. 41 west of Ethelton to east of Yellow Creek. A total of 272 properties were appraised, negotiated and acquired by a property acquisition staff of four at a negotiation success rate of 98.1%.
- A total of 84 requests to subdivide land adjacent to Provincial Highways were reviewed. These were all cases where future highway widening, frontage road or sight triangle land was required by the Province. Direction was provided in each case as to the method of securing the required land. In 20 cases there was direct involvement required by the Property Acquisition Section to appraise and negotiate land by purchase agreement or formal land dedication agreement.

- Six old arbitration cases were settled out of court during the past year due to a commendably dedicated effort by our Justice Department solicitor. The most substantial case settled was a 1966 gravel deposit expropriation. Four of the other settlement cases dated back to the 1970's and the most recent was a 1984 case.

Property Management

- The number of requests for permits and consents for roadway closures, abandonments and encroachments remained at a higher than normal level during the year. Ongoing improvements in processing requests have reduced processing time so that an acceptable level of service and targeted turn-a-round time were maintained.
- A significant activity performed by the section was the completion of the conversion of some 70,000 documents to an electronic plan index system, an enhancement to the existing Chief Surveyor's system. Major benefits of the computerized plan index system will be in improved efficiency in management, maintenance and retrieval of information from our more than 65,000 legal plans of survey. To locate plans using the former system involved the use of cards, township plans and record books developed some 30 to 100 years ago. The new index system will allow a search of plan information electronically by:
  a) Land area, such as quarter section, river lot, Indian Reserve, Longitude and Latitude in the far north
  b) Registered plan number
  c) Highways index number
  d) Plan type, such as all road plans in a certain quarter section or town
  e) Other identifiers, such as highway control section number, City division name, site name
  f) Primary section corners that plans tie into. This will be a valuable enhancement to the system when preparing legal survey instructions for the highway survey program.

Other specific achievements carried out by this section were:

- Ongoing maintenance of the property inventory system
- Ongoing microfilming of non current files
- An improved procedure to increase efficiency in the transfer of land between Federal Agencies and the Province.

Property Registration

Legal survey services were secured and plans of survey and other legal documents were produced for registration in the Land Titles Office in time to meet department construction and maintenance requirements.

The volume of work in conveyancing of portions of roadways resulting from Rail Line Abandonment has increased, along with increased activity in investigating, reporting and conveyancing of roadways affected by the Indian Land Entitlement selections.

1987-88 Accomplishments

Plans of survey recorded (all types)	1,192
Road, Public Improvement and Reference Plans processed	414
Road, Public Improvement and Reference Plans registered	366
Provincial Highway, Public Improvement and Miscellaneous surveys contracted	53
Kilometres of Provincial Highway contracted	146
Consents and Permits issued	1,565
Closures, Abandonments and Encroachments issued	280
Property agreements paid	554
Property agreements negotiated	459

Financial Services Branch

The mission of the Financial Services Branch is to provide centralized financial services and useful financial management information to department managers, and other government entities, in accordance with specified guidelines and regulations.

The Branch processes payments, payrolls and receipts, maintains financial records and produces financial and statistical reports. The Branch also co-ordinates the preparation of the department's administrative and Revolving Fund budgets. Fiscal forecasts are prepared and submitted to Treasury Board Division on a regular basis.

The Branch prepares the Revolving Fund financial statements and the department's reports for Public Accounts. Financial advice is provided to the rest of the department on an informal basis or through committees.

Multi-purpose work stations were installed in all units of the Branch during the year. This enabled employees to access Westbridge, word processing software and Wang Office from the same piece of equipment.

In the fall of 1987, the department extended the direct deposit payroll option to labour service employees. This allowed employees' wages to be deposited electronically to the financial institution of their choice. Approximately 85% of labour service employees have taken advantage of this option.

The payroll unit of the Branch produced in excess of 22,500 labour service cheques and direct deposit advices during the year, while processing the payroll for all salaried public service employees in the department.

The Branch automated a number of functions using Lotus 1-2-3 on Wang personal computers. One function was the monitoring and aging of accounts receivable.

Another was the development of a program on the personal computer to monitor the Revolving Fund's capital acquisitions. The program records the budget amounts, the actual purchases and capital cost additions. This program will enhance our ability to monitor expenditures and identify any deviations on a timely basis.

The budgeting system, developed in 1987 for the Revolving Fund, was implemented. The system allows districts to prepare their individual budgets which are then consolidated by the Financial Services Branch into a budget for the entire Fund. Monthly reports comparing actual expenditures with budgeted expenditures will be produced.

Increased emphasis was put on inventory management through a seminar attended by the storekeepers and others involved with ordering items for inventory and through the development of graphs reporting inventory levels for the districts. The inventory level decreased from over $3,800,000 on March 31, 1987 to $3,000,000 on March 31, 1988 — a reduction of 21%.

The Administrative Support Section was reorganized on June 1, 1987 to include the Data Entry Unit. At the same time, the equipment was upgraded to multi-function work stations.

A Quality Circle project, begun in the 1986-87 fiscal year, was completed and implemented. The project's objective was to streamline ordering, filing and storage techniques. A presentation was made to Executive Administration and to several other units explaining the steps of this problem solving technique.

Appropriation and Expenditure 1987-88

Ordinary	*Appropriation	Expenditure
Executive Administration	$1,053,800	$1,011,574
Financial Services Branch	699,500	618,288
Human Resources Branch	873,900	816,896
Transportation Planning and Research Division	2,915,100	2,805,392
Property Services Branch	716,600	630,007
Communications Branch	704,000	618,516
Operations Services Branch	1,146,700	1,091,285
Engineering Division	2,500,400	2,482,063
Bridge Branch	342,800	345,391
Swift Current District	1,251,300	1,132,362
Regina District	1,697,700	1,575,775
Yorkton District	1,206,000	1,122,667
Saskatoon District	1,094,000	920,802
Prince Albert District	1,764,500	1,585,609
North Battleford District	1,518,400	1,306,299
Management Services Branch	1,087,700	1,071,634
Grants	138,800	137,755
Transport Services Branch	2,947,900	2,906,487
Highway Traffic Board Services Branch	493,900	348,196
Payments to Saskatchewan Property Management Corporation	8,233,900	8,119,345
Members of the Executive Council (Statutory)	28,300	28,327
	$ 32,415,200	$ 30,674,670
Maintenance	87,477,700	84,933,165
Subtotal	$119,892,900	$115,607,835
Capital		
Rural Surface Transportation	$ 95,240,000	$ 95,890,342
Urban Surface Transportation	5,100,000	5,266,276
Air Transportation	600,000	463,076
	$100,940,000	$101,619,694
Total	$220,832,900	$217,227,529

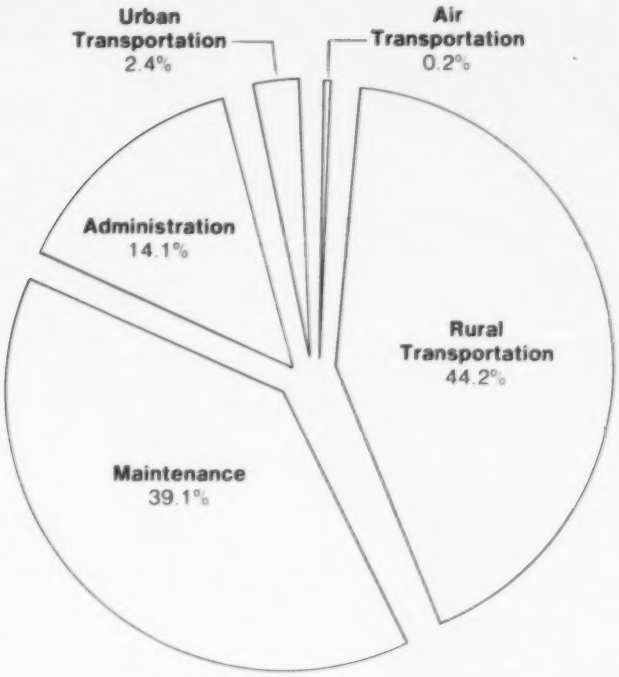
Special Warrants

*Appropriation does not include Special Warrants:

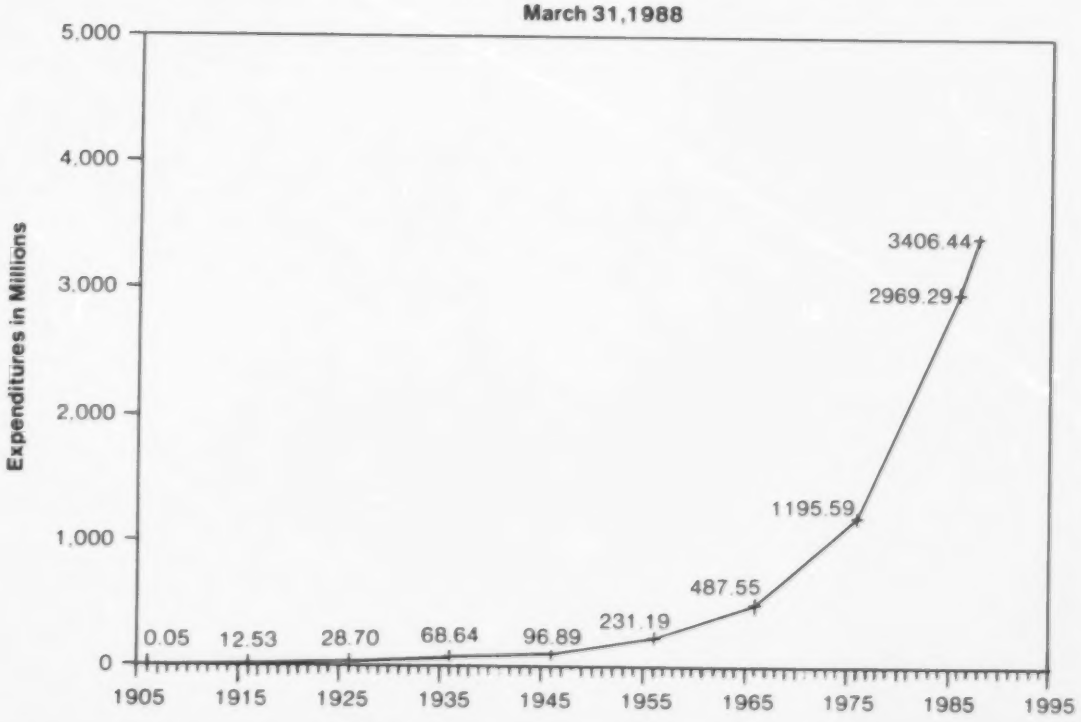
Capital	$2,000,000

*The effect of virements is not reflected in these amounts

Expenditure Distribution



Accumulated Expenditures to Date



Accumulated Expenditure to Date

Fiscal Year	Current Year	To Date
1905-06	$ 49,546	$ 49,546
1906-07	484,177	533,723
1907-08	1,041,383	1,575,106
1908-09	1,443,335	3,018,441
1909-10	591,957	3,610,398
1910-11	610,920	4,221,318
1911-12	614,356	4,835,674
1912-13	2,525,188	7,360,862
1913-14	1,970,135	9,330,997
1914-15	2,370,439	11,701,436
1915-16	831,594	12,533,030
1916-17	536,594	13,069,624
1917-18	815,438	13,885,062
1918-19	616,472	14,501,534
1919-20	1,306,370	15,807,904
1920-21	1,804,973	17,612,877
1921-22	2,495,925	20,108,802
1922-23	2,201,358	22,310,160
1923-24	2,037,295	24,347,455
1924-25	2,229,408	26,576,863
1925-26	2,123,173	28,700,036
1926-27	2,660,195	31,360,231
1927-28	2,488,961	33,849,192
1928-29	4,228,261	38,077,453
1929-30	6,664,400	44,741,853
1930-31	10,703,359	55,445,212
1931-32	8,149,746	63,594,958
1932-33	905,374	64,500,332
1933-34	862,029	65,362,361
1934-35	1,661,983	67,024,344
1935-36	1,620,142	68,644,486
1936-37	2,595,381	71,239,867
1937-38	2,823,356	74,063,223
1938-39	3,509,280	77,572,503
1939-40	3,399,603	80,972,106
1940-41	1,706,382	82,678,488
1941-42	1,874,917	84,553,405
1942-43	2,126,374	86,679,779
1943-44	2,918,157	89,597,936
1944-45	3,387,320	92,985,256
1945-46	3,908,367	96,893,623
1946-47	$ 6,312,801	$ 103,206,424
1947-48	8,840,535	112,046,959
1948-49	8,853,999	120,900,958
1949-50	8,767,610	129,668,568
1950-51	10,118,744	139,787,312
1951-52	12,823,535	152,610,847
1952-53	18,919,646	171,530,493
1953-54	19,135,070	190,665,563
1954-55	20,395,779	211,061,342
1955-56	20,127,262	231,188,604
1956-57	24,140,190	255,328,794
1957-58	24,491,369	279,820,163
1958-59	23,697,574	303,517,737
1959-60	23,104,119	326,621,856
1960-61	25,237,066	351,858,922
1961-62	21,591,307	373,450,229
1962-63	22,094,828	395,545,221
1963-64	24,167,674	419,712,731
1964-65	27,152,511	446,865,242
1965-66	40,679,979	487,545,221
1966-67	54,387,704	541,932,925
1967-68	60,227,543	602,160,468
1968-69	60,110,923	662,271,391
1969-70	58,560,829	720,832,220
1970-71	68,081,718	788,913,938
1971-72	66,933,052	855,846,990
1972-73	63,362,093	919,209,083
1973-74	69,456,878	988,665,961
1974-75	96,760,356	1,085,426,317
1975-76	110,162,524	1,195,588,841
1976-77	123,321,325	1,318,910,166
1977-78	132,425,146	1,451,335,312
1978-79	160,610,850	1,611,946,162
1979-80	158,107,523	1,770,053,685
1980-81	168,287,313	1,938,340,998
1981-82	191,474,090	2,129,815,088
1982-83	192,829,361	2,322,644,449
1983-84	215,968,431	2,538,612,880
1984-85	211,979,173	2,753,592,053
1985-86	215,695,526	2,969,287,579
1986-87	219,921,430	3,189,209,009
1987-88	217,227,529	3,406,436,538